

DRAFT

Allenstown - Multiple Roadways Planning Level Estimate

in:

Allenstown, NH

prepared for:

Town of Allenstown

7-14-2014

Prepared By:

Hoyle, Tanner
& Associates, Inc.

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HTA Project No.

922601



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Project: Allenstown - Multiple Roadways

HTA Project #: 922601

Location: Allenstown, NH

Task: Planning Level Estimate

Calculated By: CED

Checked By: TMC

NHDOT Project #: N/A

Date: 7/11/2014

Date: 7/11/2014

Planning Level Estimate

EXECUTIVE SUMMARY

The Town of Allenstown has requested Hoyle, Tanner to provide a Planning Level Cost Estimate to improve several roadways within the town. The roadways included in this estimate are a portion of River Road from Route 28 to Granite Street, Heritage Drive, Townhouse Road, Meadow Lane, Ferry Street, Reynolds Avenue, Whitten Street, Webster Street, East Webster Street and Library Street. It is anticipated the roadways will be improved over two construction seasons (2015 and 2016). For planning purposes we have provided separate estimates for each roadway. We have also provided a summary of costs for two contracts, one for each construction season. Contract A includes River Road, Heritage Drive, Townhouse Road and Meadow Lane. Contract B includes Ferry Street, Reynolds Avenue, Whitten Street, Webster Street, East Webster street and Library Street.

The Planning Level Cost Estimate consists of the probable construction costs plus the project development and administration costs. The cost estimates are based on the anticipated scope of work, as well as Hoyle, Tanner's experience with similar projects and understanding of current industry trends. The construction cost estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that unit costs in this estimate are based on 2014 NHDOT construction costs and changes in material or labor costs in the construction industry could impact the project cost in either direction.

The Project Development and Administration cost for each roadway includes a fee for survey, design, permitting, utility coordination, producing bid documents and assisting during the bid process, and construction administration. Assumptions used for the construction item estimates and project development and administration fees are listed on the following page.



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Location: Allenstown, NH
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SHEET 3 OF 29
NHDOT Project #: N/A
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ASSUMPTIONS

CONSTRUCTION ITEMS COST ASSUMPTIONS

- 1 Method of roadway pavement improvement (full depth reconstruction (FDR) vs reclamation) was discussed and agreed to with the Town.
- 2 Areas of sidewalk removal were also discussed and agreed to with the Town.
- 3 Limits of construction were assumed within the existing roadway and sidewalk limits. The estimates assumed Right-of-Way takings would NOT be required.
- 4 Pavement Full Depth Reconstruction consists of 3" of hot bituminous pavement, 6" of crushed stone (fine), and 12" of crushed stone (coarse).
- 5 Pavement reclamation consists of 12" reclaiming existing pavement and placement of 3" hot bituminous pavement.
- 6 Drainage system improvements were coordinated with the GIS plans. It was assumed that an existing outfall can be used to outlet the improved systems.
- 7 Clearing and/or tree removals will not be required.
- 8 Cold Planing of adjacent intersections and driveways will be required to match into the proposed pavement.
- 9 Utility pole relocation (By Others) may be required in some locations, costs not included.

PROJECT DEVELOPMENT AND ADMINISTRATION COST ASSUMPTIONS

- 10 Due to potential profile revisions and the need to tie in drives and walkways, survey has been assumed required for all roadways. Survey is estimated at \$2100/1000 lf based on recent fees received.
- 11 It is assumed the project will be broken up into two construction projects, one to be constructed in 2015 and the other to be constructed in 2016. It is assumed two engineering design sets of plans will be required and two set of bid documents will be prepared. Engineering design was assumed to be approximately 5% of the construction item total.
- 12 Costs for relocation or improvements to existing underground utilities (sewer, water, gas, telephone, cable) will be under a different contract. Some coordination is anticipated and is included in this estimate. Utility coordination was assumed at approximately 0.5% of the construction item total.
- 13 Permitting for the project is assumed to include a Shoreland permit, DES coordination, AoT coordination, SWPPP by contractor - Permitting has been assumed at approximately 1% of construction item cost.
- 14 It is assumed 1 set of bid documents will be required for each construction project. Producing bid documents and assisting during the bid process is assumed at approximately 1% of Construction Item Cost.
- 15 Construction Administration is assumed to be required for two construction seasons for 30 weeks/season or 60 weeks. It is assumed 8 hrs for a Sr. Engineer, 16 hrs for an Engineer, and 2 hrs for an administration person will be required each week. An average salary rate of \$100/hr is assumed.



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SHEET 4 OF 29
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 Date: 7/11/2014
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SUMMARY OF WORK

	Length (Ft)
River Road (Rte 28 to Kimberly Ln) -Reclaim existing roadway -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Fix section of guardrail -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Loam and seed strip of land at edge of new roadway	1488
River Road (Kimberly Ln to Granite St) -Excavation of existing roadway -Full depth reconstruction (FDR) -New 3" HBP, Machine Method, plus sub-base -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb at Meadow Ln intersection (500' both sides) -Add underdrain at curb -Loam and seed strip of land at edge of new roadway	2160
Townhouse Rd -Reclaim existing roadway -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb both sides -Add underdrain on southern portion -Loam and seed strip of land at edge of new roadway	1037
Meadow Lane -Excavation of existing roadway -Full depth reconstruction (FDR) -New 3" HBP, Machine Method, plus sub-base -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb both sides -Add underdrain at curb -Loam and seed strip of land at edge of new roadway	754



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SHEET 5 OF 29
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SUMMARY OF WORK

	Length (Ft)
Heritage Drive -Excavation of existing roadway -Full depth reconstruction (FDR) -New 3" HBP, Machine Method, plus sub-base -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb both sides -Add underdrain at curb -Loam and seed strip of land at edge of new roadway	717
Ferry Street (Old Section) -Replace old sidewalk on both sides, maintain elevation on south side -Reclaim existing roadway -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb on both sides -Loam and seed strip of land at edge of new roadway	1304
Reynolds Ave -Pavement removal and roadway discontinuance at north end -Potentially revise to a one-way street -Sidewalk removal on west side of street -Reclaim existing roadway -Full depth reconstruction for street widening (sidewalk removal area) -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb on west side -Loam and seed strip of land at edge of new roadway -Coordinate improvements with Boys & Girls club	701
Whitten Street -Sidewalk removal on both sides of street -Reclaim existing roadway -Full Depth Reconstruction for street widening (sidewalk removal areas) -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb on both sides of street -Loam and seed strip of land at edge of new roadway	780



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SHEET 6 OF 29
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SUMMARY OF WORK

	Length (Ft)
Webster Street	789
<ul style="list-style-type: none"> -Sidewalk removal on both sides of street -Reclaim existing roadway -Remove and rehandle excess material -Full Depth Reconstruction for street widening (sidewalk removal areas) -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb on both sides of street -Loam and seed strip of land at edge of new roadway 	
East Webster St	321
<ul style="list-style-type: none"> -Reclaim existing roadway -Remove and rehandle excess material -New 3" HBP, Machine Method -Work to match existing driveways and walkways -Loam and seed strip of land at edge of new roadway 	
Library St (Old Section)	1185
<ul style="list-style-type: none"> -Excavation of existing roadway -Full Depth Reconstruction (FDR) -New 3" HBP, Machine Method, plus sub-base -Work to match existing driveways and walkways -Upgrade Library parking area and walkways -Add drainage trunk line & CBs -Improve existing drainage structures (Frame & Grate) -Add straight granite curb both sides -Loam and seed strip of land at edge of new roadway 	



Project: Allenstown - Multiple Roadways
 HTA Project #: HTA Project No.
 Location: Allenstown, NH
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 Checked By: SBH

NHDOT Project #: NA

Date: 7/11/2014
 Date: 7/11/2014

ROADWAY IMPROVEMENTS - OPINION OF COST SUMMARY TABLE

Contract A					Contract B						Task Totals
Roadway Name	River Rd	Townhouse Rd	Meadow Ln	Heritage Dr	Ferry St	Reynolds Ave	Whitten St	Webster St	East Webster St	Library St	Task Totals
Linear Feet of Roadway	3648	1037	754	717	1304	701	780	789	321	1185	11236
Construction Item Total	\$544,375.83	\$228,956.96	\$221,314.53	\$202,145.74	\$337,717.28	\$109,181.85	\$185,974.29	\$147,477.66	\$15,881.99	\$261,864.85	\$2,254,890.98
Construction Item Sub-Total Contract A \$1,196,793.06					Construction Item Sub-Total Contract B \$1,058,097.92						\$2,254,890.98
Project Development & Administration Costs											
Survey	\$7,792.10	\$2,215.02	\$1,610.54	\$1,531.51	\$2,785.33	\$1,497.33	\$1,666.07	\$1,685.30	\$685.65	\$2,531.15	\$24,000.00
Design	\$35,713.78	\$10,152.19	\$7,381.63	\$7,019.40	\$12,766.11	\$6,862.76	\$7,636.17	\$7,724.28	\$3,142.58	\$11,601.10	\$110,000.00
Permitting	\$6,493.41	\$1,845.85	\$1,342.11	\$1,276.25	\$2,321.11	\$1,247.78	\$1,388.39	\$1,404.41	\$571.38	\$2,109.29	\$20,000.00
Utility Coordination	\$3,246.71	\$922.93	\$671.06	\$638.13	\$1,160.56	\$623.89	\$694.20	\$702.21	\$285.69	\$1,054.65	\$10,000.00
Right of Way	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Bidding Documents and Assistance	\$7,142.76	\$2,030.44	\$1,476.33	\$1,403.88	\$2,553.22	\$1,372.55	\$1,527.23	\$1,544.86	\$628.52	\$2,320.22	\$22,000.00
Construction Administration	\$50,648.63	\$14,397.65	\$10,468.49	\$9,954.79	\$18,104.66	\$9,732.65	\$10,829.48	\$10,954.43	\$4,456.75	\$16,452.47	\$156,000.00
Plan Development Sub-Total Contract A \$187,375.58					Plan Development Sub-Total Contract B \$154,624.42						\$342,000.00
Roadway Totals	\$655,413.21	\$260,521.04	\$244,264.69	\$223,969.70	\$377,408.27	\$130,518.80	\$209,715.83	\$171,493.15	\$25,652.55	\$297,933.74	\$2,596,890.98
Rounded	\$656,000.00	\$261,000.00	\$245,000.00	\$224,000.00	\$378,000.00	\$131,000.00	\$210,000.00	\$172,000.00	\$26,000.00	\$298,000.00	\$2,601,000.00
Sub-Total Contract A \$1,386,000.00					Sub-Total Contract B \$1,215,000.00						TOTAL Contract A & B \$2,601,000.00

Assumptions

Survey (11,236 LF) Survey is based on recent fees received at approximately \$2100/1000 LF (\$23,595.60 use \$24,000.00). Survey has been prorated by linear foot of roadway. Survey may not be required for some of the roadways.
 Design Design has been assumed at approximately 5% of construction cost
 Utility Coordination Coordination of drainage with sewer and waterlines, coordination of existing utilities with utility companies, assumed at approximately 0.5% of construction cost
 Permitting Shoreland permit, DES coordination, AoT coordination, SWPPP by contractor - assumed at approximately 1% of construction cost
 Bid Documents and Assistance Bid documents and assistance is assumed at approximately 1% of Construction Item Cost
 Construction Admin (Part time) 26 hrs/wk 4/15/2015 11/15/2015 30.0 26 1,560 \$156,000.00
 -Assume 26 hrs/wk 4/15/2016 11/15/2016 30.0
 -2 Construction seasons (60 weeks) 60.0
 -\$100/Hr



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NHDOT Project #: N/A
Date: 7/10/2014
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UNIT COST PER NHDOT ITEM NUMBER

Item #	Item	Unit	\$/Unit
201.1	CLEARING AND GRUBBING (F)	AC	\$10,000.00
201.21	REMOVING SMALL TREES	EA	\$305.00
201.22	REMOVING LARGE TREES	EA	\$825.00
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	\$11.00
202.7	REMOVAL OF GUARDRAIL	FT	\$2.00
203.1	COMMON EXCAVATION	CY	\$7.50
203.2	ROCK EXCAVATION	CY	\$50.00
203.6	EMBANKMENT-IN-PLACE (F)	CY	\$7.00
206.1	COMMON STRUCTURE EXCAVATION	CY	\$15.50
209.1	GRANULAR BACKFILL	CY	\$22.50
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	\$26.50
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	\$22.50
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	\$1.50
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	\$80.00
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	\$112.00
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	\$1.50
403.6	PAVEMENT JOINT ADHESIVE	LF	\$0.50
417	COLD PLANING BITUMINOUS SURFACES	SY	\$10.00
585.3	STONE FILL, CLASS C	CY	\$35.00
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	\$2.00
603.00215	15" R.C. PIPE, 2000D	LF	\$44.00
603.82215	15" PE PIPE (TYPE S)	LF	\$44.00
604.12	CATCH BASINS TYPE B	EA	\$2,200.00
604.15	CATCH BASINS TYPE E	EA	\$2,100.00
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	\$2,100.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	\$350.00
604.5	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	\$360.00
604.5	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	\$310.00
604.5	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	\$350.00
604.72	GRATES & FRAMES, TYPE B	EA	\$450.00
604.75	GRATES & FRAMES, TYPE E	EA	\$650.00
605.91	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	\$16.00
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	\$7.50
606.91	RESETTING OR SETTING GUARDRAIL	LF	\$10.00
608.12	2" BITUMINOUS SIDEWALK (F)	SY	\$14.00
608.24	4" CONCRETE SIDEWALK (F)	SY	\$35.00
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	\$350.00
609.01	STRAIGHT GRANITE CURB	LF	\$22.00
609.2	CURVED GRANITE CURB	LF	\$32.00
609.21	STRAIGHT GRANITE SLOPE CURB	LF	\$18.00
609.23	CURVED GRANITE SLOPE CURB	LF	\$64.00
609.5	RESET GRANITE CURB	LF	\$6.00
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	\$4.00
641	LOAM	CY	\$30.00

ESTIMATE - River Road
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 9 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	62	\$ 11.00	\$ 682.00
202.7	REMOVAL OF GUARDRAIL	FT	12	\$ 2.00	\$ 24.00
203.1	COMMON EXCAVATION	CY	2940	\$ 7.50	\$ 22,050.00
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	840	\$ 26.50	\$ 22,260.00
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	1680	\$ 22.50	\$ 37,800.00
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	3610	\$ 1.50	\$ 5,414.67
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	1479	\$ 80.00	\$ 118,328.96
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	114	\$ 112.00	\$ 12,768.00
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
403.6	PAVEMENT JOINT ADHESIVE	LF	0	\$ 0.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	1050	\$ 10.00	\$ 10,500.00
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	2654	\$ 44.00	\$ 116,758.40
604.12	CATCH BASINS TYPE B	EA	10	\$ 2,200.00	\$ 22,000.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	10	\$ 2,100.00	\$ 21,000.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	11	\$ 350.00	\$ 3,850.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	10	\$ 360.00	\$ 3,600.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	3	\$ 310.00	\$ 930.00
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	11	\$ 450.00	\$ 4,950.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	1000	\$ 16.00	\$ 16,000.00
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	50	\$ 7.50	\$ 375.00
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1000	\$ 22.00	\$ 22,000.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	37	\$ 30.00	\$ 1,111.11
	SUB-TOTAL				\$ 442,402.14
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 8,848.04
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 8,848.04
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 13,272.06
	SUB-TOTAL				\$ 473,370.29
	ROADWAY MOBILIZATION		5%		\$ 23,668.51
	ROADWAY CONTINGENCIES		10%		\$ 47,337.03

Construction Item Total: \$ 544,375.83

	SURVEY				\$ 7,792.10
	DESIGN				\$ 35,713.78
	PERMITTING				\$ 6,493.41
	UTILITY COORDINATION				\$ 3,246.71
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 7,142.76
	CONSTRUCTION ADMINISTRATION				\$ 50,648.63

PROJECT COST TOTAL: \$ 656,000.00

ESTIMATE - Townhouse Road
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 10 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	0	\$ 7.50	\$ -
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	0	\$ 26.50	\$ -
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	0	\$ 22.50	\$ -
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	3620	\$ 1.50	\$ 5,429.85
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	619	\$ 80.00	\$ 49,520.21
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	81	\$ 112.00	\$ 9,079.47
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	728	\$ 10.00	\$ 7,277.78
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	806	\$ 44.00	\$ 35,459.60
604.12	CATCH BASINS TYPE B	EA	8	\$ 2,200.00	\$ 17,600.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	5	\$ 2,100.00	\$ 10,500.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	0	\$ 350.00	\$ -
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	4	\$ 360.00	\$ 1,440.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	2	\$ 310.00	\$ 620.00
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	0	\$ 450.00	\$ -
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	1000	\$ 16.00	\$ 16,000.00
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1434	\$ 22.00	\$ 31,548.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	53	\$ 30.00	\$ 1,593.33
	SUB-TOTAL				\$ 186,068.23
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 3,721.36
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 3,721.36
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 5,582.05
	SUB-TOTAL				\$ 199,093.01
	ROADWAY MOBILIZATION		5%		\$ 9,954.65
	ROADWAY CONTINGENCIES		10%		\$ 19,909.30

Construction Item Total: \$ 228,956.96

	SURVEY				\$ 2,215.02
	DESIGN				\$ 10,152.19
	PERMITTING				\$ 1,845.85
	UTILITY COORDINATION				\$ 922.93
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 2,030.44
	CONSTRUCTION ADMINISTRATION				\$ 14,397.65

PROJECT COST TOTAL: \$ 261,000.00

ESTIMATE - Meadow Lane
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 11 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	1116	\$ 7.50	\$ 8,369.05
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	319	\$ 26.50	\$ 8,448.76
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	638	\$ 22.50	\$ 14,346.94
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	0	\$ 1.50	\$ -
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	327	\$ 80.00	\$ 26,168.83
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	28	\$ 112.00	\$ 3,121.07
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
403.6	PAVEMENT JOINT ADHESIVE	LF	0	\$ 0.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	244	\$ 10.00	\$ 2,444.44
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	628	\$ 44.00	\$ 27,623.20
604.12	CATCH BASINS TYPE B	EA	10	\$ 2,200.00	\$ 22,000.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	5	\$ 2,100.00	\$ 10,500.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	2	\$ 350.00	\$ 700.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	2	\$ 360.00	\$ 720.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	2	\$ 310.00	\$ 620.00
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	2	\$ 450.00	\$ 900.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	1508	\$ 16.00	\$ 24,128.00
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1288	\$ 22.00	\$ 28,336.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	48	\$ 30.00	\$ 1,431.11
	SUB-TOTAL				\$ 179,857.40
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 3,597.15
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 3,597.15
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 5,395.72
	SUB-TOTAL				\$ 192,447.42
	ROADWAY MOBILIZATION		5%		\$ 9,622.37
	ROADWAY CONTINGENCIES		10%		\$ 19,244.74

Construction Item Total: \$ 221,314.53

	SURVEY				\$ 1,610.54
	DESIGN				\$ 7,381.63
	PERMITTING				\$ 1,342.11
	UTILITY COORDINATION				\$ 671.06
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 1,476.33
	CONSTRUCTION ADMINISTRATION				\$ 10,468.49

PROJECT COST TOTAL: \$ 245,000.00

ESTIMATE - Heritage Drive
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 12 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	1063	\$ 7.50	\$ 7,972.89
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	304	\$ 26.50	\$ 8,048.82
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	607	\$ 22.50	\$ 13,667.81
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	0	\$ 1.50	\$ -
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	312	\$ 80.00	\$ 24,930.09
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	21	\$ 112.00	\$ 2,340.80
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
403.6	PAVEMENT JOINT ADHESIVE	LF	0	\$ 0.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	183	\$ 10.00	\$ 1,833.33
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	582	\$ 44.00	\$ 25,603.60
604.12	CATCH BASINS TYPE B	EA	8	\$ 2,200.00	\$ 17,600.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	3	\$ 2,100.00	\$ 6,300.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	2	\$ 350.00	\$ 700.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	5	\$ 360.00	\$ 1,800.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	1	\$ 310.00	\$ 310.00
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	2	\$ 450.00	\$ 900.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	1434	\$ 16.00	\$ 22,944.00
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1269	\$ 22.00	\$ 27,918.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	47	\$ 30.00	\$ 1,410.00
	SUB-TOTAL				\$ 164,279.35
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 3,285.59
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 3,285.59
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 4,928.38
	SUB-TOTAL				\$ 175,778.90
	ROADWAY MOBILIZATION		5%		\$ 8,788.95
	ROADWAY CONTINGENCIES		10%		\$ 17,577.89

Construction Item Total: \$ 202,145.74

	SURVEY				\$ 1,531.51
	DESIGN				\$ 7,019.40
	PERMITTING				\$ 1,276.25
	UTILITY COORDINATION				\$ 638.13
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 1,403.88
	CONSTRUCTION ADMINISTRATION				\$ 9,954.79

PROJECT COST TOTAL: \$ 224,000.00

ESTIMATE - Ferry Street
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 13 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	338	\$ 7.50	\$ 2,534.07
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	230	\$ 26.50	\$ 6,104.81
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	0	\$ 22.50	\$ -
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	3646	\$ 1.50	\$ 5,469.56
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	624	\$ 80.00	\$ 49,882.35
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	66	\$ 112.00	\$ 7,377.07
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
403.6	PAVEMENT JOINT ADHESIVE	LF	0	\$ 0.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	628	\$ 10.00	\$ 6,277.78
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	1163	\$ 44.00	\$ 51,180.80
604.12	CATCH BASINS TYPE B	EA	12	\$ 2,200.00	\$ 26,400.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	6	\$ 2,100.00	\$ 12,600.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	2	\$ 350.00	\$ 700.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	3	\$ 360.00	\$ 1,080.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	0	\$ 310.00	\$ -
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	2	\$ 450.00	\$ 900.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	1382	\$ 14.00	\$ 19,351.11
608.24	4" CONCRETE SIDEWALK (F)	SY	140	\$ 35.00	\$ 4,900.00
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	24	\$ 350.00	\$ 8,400.00
609.01	STRAIGHT GRANITE CURB	LF	3085	\$ 22.00	\$ 67,870.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	114	\$ 30.00	\$ 3,427.78
	SUB-TOTAL				\$ 274,455.32
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 5,489.11
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 5,489.11
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 8,233.66
	SUB-TOTAL				\$ 293,667.20
	ROADWAY MOBILIZATION		5%		\$ 14,683.36
	ROADWAY CONTINGENCIES		10%		\$ 29,366.72

Construction Item Total: \$ 337,717.28

	SURVEY				\$ 2,785.33
	DESIGN				\$ 12,766.11
	PERMITTING				\$ 2,321.11
	UTILITY COORDINATION				\$ 1,160.56
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 2,553.22
	CONSTRUCTION ADMINISTRATION				\$ 18,104.66

PROJECT COST TOTAL: \$ 378,000.00

ESTIMATE - Reynolds Avenue
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 14 of 29
HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	203	\$ 7.50	\$ 1,525.00
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	39	\$ 26.50	\$ 1,040.37
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	79	\$ 22.50	\$ 1,766.67
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	1803	\$ 1.50	\$ 2,704.59
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	349	\$ 80.00	\$ 27,888.28
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	27	\$ 112.00	\$ 2,979.20
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
403.6	PAVEMENT JOINT ADHESIVE	LF	0	\$ 0.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	233	\$ 10.00	\$ 2,333.33
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	340	\$ 44.00	\$ 14,960.00
604.12	CATCH BASINS TYPE B	EA	4	\$ 2,200.00	\$ 8,800.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	2	\$ 2,100.00	\$ 4,200.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	4	\$ 350.00	\$ 1,400.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	2	\$ 360.00	\$ 720.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	1	\$ 310.00	\$ 310.00
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	4	\$ 450.00	\$ 1,800.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	690	\$ 22.00	\$ 15,180.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	37	\$ 30.00	\$ 1,122.22
	SUB-TOTAL				\$ 88,729.66
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 1,774.59
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 1,774.59
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 2,661.89
	SUB-TOTAL				\$ 94,940.74
	ROADWAY MOBILIZATION		5%		\$ 4,747.04
	ROADWAY CONTINGENCIES		10%		\$ 9,494.07

Construction Item Total: \$ 109,181.85

	SURVEY				\$ 1,497.33
	DESIGN				\$ 6,862.76
	PERMITTING				\$ 1,247.78
	UTILITY COORDINATION				\$ 623.89
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 1,372.55
	CONSTRUCTION ADMINISTRATION				\$ 9,732.65

PROJECT COST TOTAL: \$ 131,000.00

ESTIMATE - Whitten Street
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 15 of 29
 HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
 Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	663	\$ 7.50	\$ 4,976.22
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	159	\$ 26.50	\$ 4,210.56
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	318	\$ 22.50	\$ 7,150.00
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	1993	\$ 1.50	\$ 2,990.00
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	504	\$ 80.00	\$ 40,310.40
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	38	\$ 112.00	\$ 4,256.00
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	350	\$ 10.00	\$ 3,500.00
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	626	\$ 44.00	\$ 27,544.00
604.12	CATCH BASINS TYPE B	EA	8	\$ 2,200.00	\$ 17,600.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	4	\$ 2,100.00	\$ 8,400.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	0	\$ 350.00	\$ -
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	3	\$ 360.00	\$ 1,080.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	0	\$ 310.00	\$ -
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	0	\$ 450.00	\$ -
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1260	\$ 22.00	\$ 27,720.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	47	\$ 30.00	\$ 1,400.00
	SUB-TOTAL				\$ 151,137.17
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 3,022.74
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 3,022.74
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 4,534.12
	SUB-TOTAL				\$ 161,716.77
	ROADWAY MOBILIZATION		5%		\$ 8,085.84
	ROADWAY CONTINGENCIES		10%		\$ 16,171.68

Construction Item Total: \$ 185,974.29

	SURVEY				\$ 1,666.07
	DESIGN				\$ 7,636.17
	PERMITTING				\$ 1,388.39
	UTILITY COORDINATION				\$ 694.20
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 1,527.23
	CONSTRUCTION ADMINISTRATION				\$ 10,829.48

PROJECT COST TOTAL: \$ 210,000.00

ESTIMATE - Webster Street
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 16 of 29
 HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
 Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	538	\$ 7.50	\$ 4,035.94
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	130	\$ 26.50	\$ 3,436.35
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	259	\$ 22.50	\$ 5,835.31
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	2378	\$ 1.50	\$ 3,566.94
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	540	\$ 80.00	\$ 43,174.08
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	46	\$ 112.00	\$ 5,107.20
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	417	\$ 10.00	\$ 4,166.67
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	60	\$ 44.00	\$ 2,640.00
604.12	CATCH BASINS TYPE B	EA	6	\$ 2,200.00	\$ 13,200.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	3	\$ 2,100.00	\$ 6,300.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	2	\$ 350.00	\$ 700.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	2	\$ 360.00	\$ 720.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	0	\$ 310.00	\$ -
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	2	\$ 450.00	\$ 900.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	1128	\$ 22.00	\$ 24,816.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	42	\$ 30.00	\$ 1,253.33
	SUB-TOTAL				\$ 119,851.82
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 2,397.04
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 2,397.04
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 3,595.55
	SUB-TOTAL				\$ 128,241.45
	ROADWAY MOBILIZATION		5%		\$ 6,412.07
	ROADWAY CONTINGENCIES		10%		\$ 12,824.14

Construction Item Total: \$ 147,477.66

	SURVEY				\$ 1,685.30
	DESIGN				\$ 7,724.28
	PERMITTING				\$ 1,404.41
	UTILITY COORDINATION				\$ 702.21
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 1,544.86
	CONSTRUCTION ADMINISTRATION				\$ 10,954.43

PROJECT COST TOTAL: \$ 172,000.00

ESTIMATE - East Webster Street
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 17 of 29
 HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
 Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	48	\$ 7.50	\$ 356.67
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	0	\$ 26.50	\$ -
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	0	\$ 22.50	\$ -
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	571	\$ 1.50	\$ 856.00
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	98	\$ 80.00	\$ 7,806.72
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	13	\$ 112.00	\$ 1,418.67
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	128	\$ 10.00	\$ 1,277.78
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	0	\$ 44.00	\$ -
604.12	CATCH BASINS TYPE B	EA	0	\$ 2,200.00	\$ -
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	0	\$ 2,100.00	\$ -
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	0	\$ 350.00	\$ -
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	2	\$ 360.00	\$ 720.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	0	\$ 310.00	\$ -
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	0	\$ 450.00	\$ -
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	0	\$ 14.00	\$ -
608.24	4" CONCRETE SIDEWALK (F)	SY	0	\$ 35.00	\$ -
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	0	\$ 350.00	\$ -
609.01	STRAIGHT GRANITE CURB	LF	0	\$ 22.00	\$ -
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	16	\$ 30.00	\$ 471.11
	SUB-TOTAL				\$ 12,906.94
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 258.14
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 258.14
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 387.21
	SUB-TOTAL				\$ 13,810.43
	ROADWAY MOBILIZATION		5%		\$ 690.52
	ROADWAY CONTINGENCIES		10%		\$ 1,381.04

Construction Item Total: \$ 15,881.99

	SURVEY				\$ 685.65
	DESIGN				\$ 3,142.58
	PERMITTING				\$ 571.38
	UTILITY COORDINATION				\$ 285.69
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 628.52
	CONSTRUCTION ADMINISTRATION				\$ 4,456.75

PROJECT COST TOTAL: \$ 26,000.00

ESTIMATE - Library Street
Allenstown - Multiple Roadways
Planning Level Estimate

SHEET 18 of 29
 HTA Project No. 922601

QUANTITIES RELATED TO ROADWAY CONSTRUCTION

Calc'd By: CED Date: 7/10/2014
 Checked By: SBH Date: 7/10/2014

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
201.1	CLEARING AND GRUBBING (F)	AC	0	\$ 10,000.00	\$ -
201.21	REMOVING SMALL TREES	EA	0	\$ 305.00	\$ -
201.22	REMOVING LARGE TREES	EA	0	\$ 825.00	\$ -
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	FT	0	\$ 11.00	\$ -
202.7	REMOVAL OF GUARDRAIL	FT	0	\$ 2.00	\$ -
203.1	COMMON EXCAVATION	CY	1466	\$ 7.50	\$ 10,993.75
203.2	ROCK EXCAVATION	CY	0	\$ 50.00	\$ -
203.6	EMBANKMENT-IN-PLACE (F)	CY	0	\$ 7.00	\$ -
206.1	COMMON STRUCTURE EXCAVATION	CY	0	\$ 15.50	\$ -
209.1	GRANULAR BACKFILL	CY	0	\$ 22.50	\$ -
304.4	CRUSHED STONE (FINE GRADATION) (F)	CY	458	\$ 26.50	\$ 12,123.75
304.5	CRUSHED STONE (COARSE GRADATION) (F)	CY	790	\$ 22.50	\$ 17,775.00
306.112	RECLAIMED STABILIZED BASE PROCESSED IN PLACE, 12" DEEP (F)	SY	0	\$ 1.50	\$ -
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	448	\$ 80.00	\$ 35,841.60
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	33	\$ 112.00	\$ 3,688.53
403.4	MATERIAL TRANSFER VEHICLE (MTV)	TON	0	\$ 1.50	\$ -
417	COLD PLANING BITUMINOUS SURFACES	SY	322	\$ 10.00	\$ 3,222.22
585.3	STONE FILL, CLASS C	CY	0	\$ 35.00	\$ -
593.231	GEOTEXTILE; SEPARATION CL. 3, NON-WOVEN	SY	0	\$ 2.00	\$ -
603.82215	15" PE PIPE (TYPE S)	LF	930	\$ 44.00	\$ 40,898.00
604.12	CATCH BASINS TYPE B	EA	10	\$ 2,200.00	\$ 22,000.00
604.15	CATCH BASINS TYPE E	EA	0	\$ 2,100.00	\$ -
604.324	DRAINAGE MANHOLES, 4-FOOT DIAMETER	EA	5	\$ 2,100.00	\$ 10,500.00
604.4	RECONSTRUCTING/ADJUSTING CATCH BASIN & DROP INLET	EA	1	\$ 350.00	\$ 350.00
604.51	RECONSTRUCTING/ADJUSTING SEWER MANHOLES	EA	5	\$ 360.00	\$ 1,800.00
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	EA	0	\$ 310.00	\$ -
604.54	RECONSTRUCTING/ADJUSTING TELEPHONE MANHOLES	EA	0	\$ 350.00	\$ -
604.72	GRATES & FRAMES, TYPE B	EA	1	\$ 450.00	\$ 450.00
604.75	GRATES & FRAMES, TYPE E	EA	0	\$ 650.00	\$ -
605.906	6" PIPE UNDERDRAIN (CONTRACTORS OPTION)	LF	0	\$ 16.00	\$ -
606	STEEL BEAM FOR BEAM GUARDRAIL	LF	0	\$ 7.50	\$ -
606.91	RESETTING OR SETTING GUARDRAIL	LF	0	\$ 10.00	\$ -
608.12	2" BITUMINOUS SIDEWALK (F)	SY	33	\$ 14.00	\$ 466.67
608.24	4" CONCRETE SIDEWALK (F)	SY	17	\$ 35.00	\$ 583.33
608.54	DETECTABLE WARNING DEVICES, CAST IRON	SY	1	\$ 350.00	\$ 350.00
609.01	STRAIGHT GRANITE CURB	LF	2240	\$ 22.00	\$ 49,280.00
609.2	CURVED GRANITE CURB	LF	0	\$ 32.00	\$ -
609.21	STRAIGHT GRANITE SLOPE CURB	LF	0	\$ 18.00	\$ -
609.23	CURVED GRANITE SLOPE CURB	LF	0	\$ 64.00	\$ -
609.5	RESET GRANITE CURB	LF	0	\$ 6.00	\$ -
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	0	\$ 4.00	\$ -
641	LOAM	CY	83	\$ 30.00	\$ 2,488.89
	SUB-TOTAL				\$ 212,811.74
	MISCELLANEOUS ITEMS (Seed, Signs, Utility Adjustments, Testing, Pavement Markings)		2%		\$ 4,256.23
	EROSION CONTROL (SWPP, NOI, Hay bales, silt fence, etc)		2%		\$ 4,256.23
	MAINTENANCE OF TRAFFIC (Police officers, Flaggers, Construction Signing, etc)		3%		\$ 6,384.35
	SUB-TOTAL				\$ 227,708.57
	ROADWAY MOBILIZATION		5%		\$ 11,385.43
	ROADWAY CONTINGENCIES		10%		\$ 22,770.86

Construction Item Total: \$ 261,864.85

	SURVEY				\$ 2,531.15
	DESIGN				\$ 11,601.10
	PERMITTING				\$ 2,109.29
	UTILITY COORDINATION				\$ 1,054.65
	RIGHT-OF-WAY				\$ -
	BIDDING DOCUMENTS AND ASSISTANCE				\$ 2,320.22
	CONSTRUCTION ADMINISTRATION				\$ 16,452.47

PROJECT COST TOTAL: \$ 298,000.00

Appendix

Backup Quantity Calculations



Project: Allenstown - Multiple Roadways
 HTA Project #: 922601
 Location: Allenstown, NH
 Task: Planning Level Estimate
 Calculated By: CED
 Checked By: SBH

NHDOT Project #: NA

Date: 7/10/2014
 Date: 7/10/2014

River Road (Rte 28 to Kimberly Ln) River Road (Kimberly Ln to Granite St)	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	3648							
Pipe Removal	62					62	LF	Assumed pipe removal at Meadow Lane
GR Removal	12					12	LF	Assumed 1 section of GR to be removed
Common Excavation							CY	
-Sidewalk northside							CY	
-Sidewalk southside							CY	
-Full Depth Reconstruction Area	2160	21	21	5040		2940	CY	Length and average width from field data
Rock Excavation							CY	
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)							CY	
-Full Depth Reconstruction Area	2160	21.0	6			840	CY	
Crushed Stone (Coarse)							CY	
-Full Depth Reconstruction Area	2160	21.0	12			1680	CY	
Reclaim Area (12")	1488	21.8		3610		3610	SY	Length and average width from field data
HBP, Machine Method			3	8650		1479	TON	Depth per town
HBP, Hand Method (Drives)	10	15	2	1000	60	114	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas							SY	
-Intersections	5	30	1	16.7	3	50	SY	Assume pavement match at Route 28, Granite St, Kimberly Ln
-Drives				1000		1000	SY	Same as HBP, Hand Method
Drainage Pipe							LF	
-Trunk Line	3648					2554	LF	70% of the roadway length for a new trunkline
-Connections to CBs						100	LF	Assumed 10' of new pipe for each new CB
Drainage Structures							EA	
-CBs					10	10	EA	Preliminary layout
-DMHs					10	10	EA	Preliminary layout
Existing Structures							EA	
-CBs					11	11	EA	From field data
-DMHs					3	3	EA	From field data
-SMHs					10	10	EA	From field data
Pipe Underdrain	1000					1000	LF	Length assumed
Guardrail	50					50	LF	Length assumed for GR repair
Sidewalk Area (new)								Assumed not required for this road
Wheel Chair Ramps								Assumed not required for this road
Detectable Warning Devices								Assumed not required for this road
Straight Granite Curb	1000					1000	LF	Assumed required near Meadow Lane intersection
Straight Granite Slope Curb								Assumed not required for this road
Loam	1000	3	4			37	CY	Length of curb x 3' x 4"



Project: Allenstown - Multiple Roadways
 HTA Project #: 922601
 Location: Allenstown, NH
 Task: Planning Level Estimate
 Calculated By: CED
 Checked By: SBH

NHDOT Project #: NA

Date: 7/10/2014
 Date: 7/10/2014

Townhouse Rd	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
Pipe Removal	1037						LF	
GR Removal							LF	
Common Excavation								
-Sidewalk northside							CY	
-Sidewalk southside							CY	
-Full Depth Reconstruction Area							CY	
Rock Excavation								
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area							CY	
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area							CY	
Reclaim Area (12")	1037	31.4		3620		3620	SY	Length and average width from field data
HBP, Machine Method			3	3620		619	TON	Depth per town
HBP, Hand Method (Drives)	10	20	2	711	32	81	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	16.7	1	17	SY	Assume pavement match at Granite St
-Drives	10	20	2	711	32	711	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	1037					726	LF	70% of the roadway length for a new trunkline
-Connections to CBs						80	LF	Assumed 10' of new pipe for each new CB
Drainage Structures								
-CBs					8	8	EA	Preliminary layout
-DMHs					5	5	EA	Preliminary layout
Existing Structures								
-CBs					0	0	EA	From field data
-DMHs					2	2	EA	From field data
-SMHs					4	4	EA	From field data
Pipe Underdrain	1000					1000	LF	Length assumed to be used on southern portion
Guardrail							LF	
Sidewalk Area (new)							SY	Assumed not required for this road
Wheel Chair Ramps							SY	Assumed not required for this road
Detectable Warning Devices							EA	Assumed not required for this road
Straight Granite Curb	1434					1434	LF	Assumed along entire length minus drive openings
Straight Granite Slope Curb							LF	Assumed not required for this road
Loam	1434	3	4			53	CY	Along length of curb x 3' x 4"



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Meadow Lane	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
Pipe Removal	754						LF	
GR Removal							LF	
Common Excavation							CY	
-Sidewalk northside							CY	
-Sidewalk southside							CY	
-Full Depth Reconstruction Area	754	22.8	21	1913		1116	CY	Length and average width from field data
Rock Excavation							CY	
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	754	22.8	6			319	CY	
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	754	22.8	12			638	CY	
Reclaim Area (12")							SY	Length and average width from field data
HBP, Machine Method			3	1913		327	TON	Depth per town
HBP, Hand Method (Drives)	10	20	2	244	11	28	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	16.7	0	0	SY	
-Drives	10	20	2	244	11	244	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	754					528	LF	70% of the roadway length for a new trunkline
-Connections to CBs						100	LF	Assumed 10' of new pipe for each new CB
Drainage Structures								
-CBs					10	10	EA	Preliminary layout
-DMHs					5	5	EA	Preliminary layout
Existing Structures								
-CBs					2	2	EA	From field data
-DMHs					2	2	EA	From field data
-SMHs					2	2	EA	From field data
Pipe Underdrain	1508					1508	LF	Assumed required for entire length of road, both sides
Guardrail							LF	Length assumed for GR repair
Sidewalk Area (new)								Assumed not required for this road
Wheel Chair Ramps								Assumed not required for this road
Detectable Warning Devices								Assumed not required for this road
Straight Granite Curb	1288					1288	LF	Length of road x 2 - drive openings
Straight Granite Slope Curb							LF	Length of road x 2 - drive openings
Loam	1288	3	4			48	CY	Length of curb x 3' x 4"



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Heritage Drive	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	717							
Pipe Removal							LF	
GR Removal							LF	
Common Excavation								
-Sidewalk northside							CY	
-Sidewalk southside							CY	
-Full Depth Reconstruction Area	717	22.9	21	1822		1063	CY	Length and average width from field data
Rock Excavation								
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	717	22.9	6			304	CY	
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	717	22.9	12			607	CY	
Reclaim Area (12")							SY	
HBP, Machine Method			3	1822		312	TON	Depth per town
HBP, Hand Method (Drives)	10	15	2	183	11	21	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	16.7	0	0	SY	
-Drives	10	15	2	183	11	183	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	717					502	LF	70% of the roadway length for a new trunkline
-Connections to CBs						80	LF	Assumed 10' of new pipe for each new CB
Drainage Structures								
-CBs					8	8	EA	Preliminary layout
-DMHs					3	3	EA	Preliminary layout
Existing Structures								
-CBs					2	2	EA	From field data
-DMHs					1	1	EA	From field data
-SMHs					5	5	EA	From field data
Pipe Underdrain	1434					1434	LF	Assumed required for entire length of road, both sides
Guardrail							LF	
Sidewalk Area (new)							SY	Assumed not required for this road
Wheel Chair Ramps							SY	Assumed not required for this road
Detectable Warning Devices							EA	Assumed not required for this road
Straight Granite Curb	1269					1269	LF	Length of road x 2 minus drive openings
Straight Granite Slope Curb							LF	Assumed not required for this road
Loam	1269	3	4			47	CY	Length of curb x 3' x 4"



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Ferry Street (Old Section)	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	1304	25.2						
Pipe Removal							LF	
GR Removal							LF	
Common Excavation								
-Sidewalk northside	1244	5	8	691		154	CY	Assumed north side old sidewalk, depth = 8", new side = 60'
-Sidewalk southside	1244	6	8	829		184	CY	Assumed south side old sidewalk, grass panels, drives, depth =8", new sidewalk = 60'
-Full Depth Reconstruction Area							CY	
Rock Excavation								
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)								
-Sidewalk on north side	1244	5.0	6	691		115	CY	New sidewalk on north side
-Sidewalk on south side	1244	5.0	6	691		115	CY	New sidewalk on south side
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area							CY	
Reclaim Area (12")	1304	25.2		3646		3646	SY	Length and average width from field data
HBP, Machine Method			3	3646		624	TON	Reclaim area plus widening area, Depth per town
HBP, Hand Method (Drives)	10	20	2	578	26	66	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	2	16.7	3	50	SY	Assume pavement match at Main St, Ferry St (west end), Houle Ave
-Drives				578		578	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	1304					1043	LF	80% of the roadway length for a new trunkline
-Connections to CBs						120	LF	Assumed 10' of new pipe for each new CB
Drainage Structures								
-CBs					12	12	EA	Preliminary layout
-DMHs					6	6	EA	Preliminary layout
Existing Structures								
-CBs					2	2	EA	From field data
-DMHs					0	0	EA	From field data
-SMHs					3	3	EA	From field data
Pipe Underdrain							LF	
Guardrail							LF	
Sidewalk Area (new)	2488	5				1382	SY	New Sidewalk on north and south side
Wheel Chair Ramps	252	5				140	SY	12 drives on south side, length = 6' on high side, 15' on south side
Detectable Warning Devices	24					24	EA	2 at each drive
Straight Granite Curb	3085					3085	LF	Use on both sides minus drives, measured on google earth
Straight Granite Slope Curb							LF	
Loam	3085	3	4			114	CY	Length of curb (both sides) x 3' x 4"



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Reynolds Ave	Length (Ft) 701	Width (Ft) 24.6	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
Pipe Removal							LF	
GR Removal							LF	
Common Excavation								
-North end pavement removal	40	24	9	107		27	CY	North end pavement removal
-Sidewalk removal west side for FDR	424	5	27	236		177	CY	Length from google earth, depth = FDR (21") + sidewalk depth (6") = (27")
-Full Depth Reconstruction Area							CY	
Rock Excavation								
-Concrete in sidewalk westside							CY	
							CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	424	5.0	6	236		39	CY	Widening on west side, same area as sidewalk removal
							CY	New sidewalk on south side
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	424	5.0	12	236		79	CY	Widening on north side
Reclaim Area (12")	661	24.6		1803		1803	SY	Length and average width from field data minus pavement removal area
HBP, Machine Method			3	2039		349	TON	Reclaim area plus widening area, Depth per town
HBP, Hand Method (Drives)	10	30	2	233	7	27	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections							SY	Assume pavement match at intersections
-Drives				233		233	SY	Same area as HBP, Hand Method
Drainage Pipe								
-Trunk Line	200					300	LF	Assumed 300 lf for additional trunk line
-Connections to CBs						40	LF	Assumed 10' of new pipe for each new CB
Drainage Structures								
-CBs					4	4	EA	Preliminary layout
-DMHs					2	2	EA	Preliminary layout
Existing Structures								
-CBs					4	4	EA	From field data
-DMHs					1	1	EA	From field data
-SMHs					2	2	EA	From field data
Pipe Underdrain							LF	
Guardrail							LF	
Sidewalk Area (new)							SY	
Wheel Chair Ramps							SY	
Detectable Warning Devices							EA	
Straight Granite Curb	690					690	LF	Along both sides of road, measured on google earth 352' east side, 338' west side
Straight Granite Slope Curb							LF	
Loam	690	3	4			37	CY	Length of curb (both sides) x 3' x 4" plus area at roadway discontinuance



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Whitten Street

	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	780	23.0						
Common Excavation								
-Sidewalk north side below concrete for FDR	780	6	27	520		390	CY	sidewalk removal to FDR limit
-Sidewalk removal south side for FDR (western end)	275	5.5	27	168		126	CY	sidewalk removal to FDR limit
-South side FDR (eastern end)	455	5	21	253		147	CY	Common Ex for FDR
Rock Excavation								
-Concrete in sidewalk northside							CY	Concrete sidewalk removal, lengths and widths from field data, depth assumed
-Concrete in sidewalk southside							CY	Concrete sidewalk removal, lengths and widths from field data, depth assumed
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	780	11.0	6			159	CY	Pavement widening, width = proposed (34') - existing (23') = 11'
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	780	11.0	12			318	CY	Pavement widening, width = proposed - existing
Reclaim Area (12")	780	23.0				1993	SY	Length and average width from field data
HBP, Machine Method	780	34	3			504	TON	Length from field data, width is desired, depth per town
HBP, Hand Method (Drives)	10	15	2	333	20	38	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	17		17	SY	Assume pavement match at Main St
-Drives				333		333	SY	Same area as HBP, Hand Method
Drainage Pipe								
-Trunk Line	780					546	LF	Assumed 70% of the roadway length for a new trunkline
-Connections to CBs						80	LF	Assume 10' per new CB
Drainage Structures								
-CBs					8	8	EA	Preliminary layout
-DMHs					4	4	EA	Preliminary layout
Existing Structures								
-CBs					0	0	EA	From field data
-DMHs					0	0	EA	From field data
-SMHs					3	3	EA	From field data
Pipe Underdrain								Assumed not required for this road
Guardrail								Assumed not required for this road
Sidewalk Area (new)								Assumed not required for this road
Wheel Chair Ramps								Assumed not required for this road
Detectable Warning Devices								Assumed not required for this road
Straight Granite Curb	1260					1260	LF	Length of road x 2 - drive openings
Straight Granite Slope Curb							LF	Assumed not required for this road
Loam	1260	3	4			47	CY	Length of curb x 3' x 4"



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Webster Street

	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	789	27.1						
Common Excavation								
-Sidewalk northside	765	5.5	27	467.5		351	CY	sidewalk removal to FDR limit - conc ex, length measured in google earth
-Sidewalk southside	375	6	27	250		188	CY	sidewalk removal to FDR limit - conc ex
Rock Excavation								
-Concrete in sidewalk northside							CY	Concrete sidewalk removal, lengths and widths from field data, depth assumed
-Concrete in sidewalk southside							CY	Concrete sidewalk removal, lengths and widths from field data, depth assumed
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	789	8.9	6			130	CY	Pavement widening, width = proposed - existing
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	789	8.9	12			259	CY	Pavement widening, width = proposed - existing
Reclaim Area (12")	789	27.1				2378	SY	Length and average width from field data
HBP, Machine Method	789	36	3			540	TON	Length from field data, width is desired, depth per town
HBP, Hand Method (Drives)	10	20	2	400	18	46	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	16.7		17	SY	Assume pavement match at Main St
-Drives				400		400	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	0					0	LF	Assume trunkline is in place
-Connections to CBs						60	LF	Assume 10' per new CB
Drainage Structures								
-CBs					6	6	EA	Preliminary layout
-DMHs					3	3	EA	Preliminary layout
Existing Structures								
-CBs					2	2	EA	From field data
-DMHs					0	0	EA	From field data
-SMHs					2	2	EA	From field data
Pipe Underdrain								Assumed not required for this road
Guardrail								Assumed not required for this road
Sidewalk Area (new)								Assumed not required for this road
Wheel Chair Ramps								Assumed not required for this road
Detectable Warning Devices								Assumed not required for this road
Straight Granite Curb	1128					1128	LF	Length of road x 2 - drive openings - curb to remain
Straight Granite Slope Curb							LF	Assumed not required for this road
Loam	1128	3	4			42	CY	Length of curb x 3' x 4"



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East Webster St	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	321	16.0						
Common Excavation							CY	Remove excess material from reclaim
-Sidewalk northside						0	CY	
-Sidewalk southside						0	CY	
-Excess reclaim material			3	570.7		48	CY	
Rock Excavation								
-Concrete in sidewalk northside						0	CY	
-Concrete in sidewalk southside						0	CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area						0	CY	
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area						0	CY	
Reclaim Area (12")	321	16.0				571	SY	Length and average width from field data
HBP, Machine Method	321	16.0	3			98	TON	Length from field data, width is desired, depth per town
HBP, Hand Method (Drives)	10	25	2	111.1	4	13	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	1	16.7		17	SY	Assume pavement match at Main St
-Drives				111.1		111	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	0					0	LF	Assume trunkline not required
-Connections to CBs						0	LF	
Drainage Structures								
-CBs					0	0	EA	Preliminary layout
-DMHs					0	0	EA	Preliminary layout
Existing Structures								
-CBs					0	0	EA	From field data
-DMHs					0	0	EA	From field data
-SMHs					2	2	EA	From field data
Pipe Underdrain								Assumed not required for this road
Guardrail								Assumed not required for this road
Sidewalk Area (new)								Assumed not required for this road
Wheel Chair Ramps								Assumed not required for this road
Detectable Warning Devices								Assumed not required for this road
Straight Granite Curb								Assumed not required for this road
Straight Granite Slope Curb							LF	Assumed not required for this road
Loam	424	3	4			16	CY	Length of road x 2 x 3' x 4" minus drives



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Library St (Old Section)

	Length (Ft)	Width (Ft)	Depth (In)	Area (SY)	Count	QTY	Unit	Remarks
	1185	18						
Common Excavation								
-Sidewalk northside							CY	
-Sidewalk southside							CY	
-Full Depth Reconstruction Area	1185	18	21	2370.0		1383	CY	Entire roadway is FDR
-Library Improvements	75	30	12	250.0		83	CY	Library Drive Improvements
Rock Excavation								
-Concrete in sidewalk northside							CY	
-Concrete in sidewalk southside							CY	
Crushed Stone (Fine)								
-Full Depth Reconstruction Area	1185	18.0	6			395	CY	FDR Area
-Library Improvements	75	30	9	250.0		63	CY	
Crushed Stone (Coarse)								
-Full Depth Reconstruction Area	1185	18.0	12			790	CY	FDR Area
Reclaim Area (12")							SY	
HBP, Machine Method	1185	18.0	3			405	TON	Length from field data, width is desired, depth per town
-Library Improvements	75	30	3			43	TON	
HBP, Hand Method (Drives)	10	20	2	288.9	13	33	TON	Assumed 10' into drive, estimated average width, assumed 2" depth, count from google earth
Cold Planing Areas								
-Intersections	5	30	2	33.3	2	33	SY	Assume pavement match at Main St and Library St
-Drives				288.9		289	SY	Same as HBP, Hand Method
Drainage Pipe								
-Trunk Line	829.5					830	LF	Assume trunkline needed, use 70% of length
-Connections to CBs						100	LF	Assume 10' per new CB
Drainage Structures								
-CBs					10	10	EA	Preliminary layout
-DMHs					5	5	EA	Preliminary layout
Existing Structures								
-CBs					1	1	EA	From field data
-DMHs					0	0	EA	From field data
-SMHs					5	5	EA	From field data
Pipe Underdrain								Assumed not required for this road
Guardrail								Assumed not required for this road
Sidewalk Area (new)	30	5	2	33.3	2	33	SY	Assumed required for improvements to Library
Wheel Chair Ramps	15	5	4	16.7	2	17	SY	Assumed 1 required for improvements to Library
Detectable Warning Devices					1	1	EA	Assumed 1 required for improvements to Library
Straight Granite Curb	2240					2240	LF	Length of road x 2 - drive openings
Straight Granite Slope Curb							LF	Length of road x 2 - drive openings - curb to remain
Loam	2240	3	4			83	CY	Length of curb x 3' x 4"