Medfield, MA Off-Site Intersection Options

12/12/2024

INTERSECTION OPTION	INTERSECTION DESCRIPTION	VHB ESTIMATED COST	COST FUNDED IN MASSWORKS GRANT	(OVER)/UNDER MASSWORKS GRANT BUDGET
HOSPITAL and HARDING				
Option 1	Harding Street stop at Hospital Road	$ 440,000	$ 410,000	$ (30,000)
Option 1A	Harding T at Hospital Road with 3-way Stop	$ 440,000	$ 410,000	$ (30,000)
Option 2	Hospital Road stop at Harding Street	$ 400,000	$ 410,000	$ 10,000
NORTH AND HARDING				
Option 1	Harding Street stop at North Street	$ 500,000	$ 500,000	$ -
Option 2	Roundabout	$ 810,000	$ 500,000	$ (310,000)
Option 3	North Street stop at Harding Street	$ 580,000	$ 500,000	$ (80,000)
WEST AND HARDING				
Option 1	Harding Street Stop at West Street	$ 380,000	$ 300,000	$ (80,000)
Option 2	West Street Stop at Harding Street	$ 380,000	$ 300,000	$ (80,000)

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N/F
ELIZABETH A. HALEY
200 NORTH STREET
MAP 57 LOT 14

EXCLUSIVE USE EASEMENT

N/F
JAMES E. HOWLEY
3 HARDING STREET
MAP 57 LOT 12

N/F
JOSHUA B. BOCK
198 NORTH STREET
MAP 57 LOT 13

N/F
ROBERT D. SWANSON
5 HARDING STREET
MAP 57 LOT 11

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 52

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 53

NORTH STREET

HARDING STREET

PROP LOAM & SEED

PROP LOAM & SEED

STONE BOUND
W/ DRILL HOLE
FIRM
(FOUND)

IRON ROD
w/ NO CAP
(FOUND)

IRON ROD
w/ NO CAP
(FOUND)

N/F
BEN J. FLAMAND
14 HARDING STREET
MAP 57 LOT 66

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DANIEL A. MEDEIROS
190 NORTH STREET
MAP 57 LOT 54

~20' WIDE SEWER EASEMENT

STONE BOUND
W/ DRILL HOLE
FIRM
(FOUND)

Harding St at North St - Option 1 - Harding St EB Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

North at Harding - Option 1
Conceptual Estimate
Medfield, MA

Job Number: **15677.00**
Date: **December 10, 2024**
Preparer: **BMM**
Checked by: **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	2074	SY	$292,432.43
Loam & Seed	$38.00 /SY	421	SY	$15,986.60
Granite Curbing	$1,000.00 /LS	1	LS	$1,000.00
Signing & Striping	$3,900.00 /LS	1	LS	$3,900.00
			Subtotal:	$313,319.03
			Mobilization (3%):	$9,399.57
			Construction Staking (3%):	$9,399.57
			Design/Construction Contingencies (25%):	$78,329.76
			Construction Staging/Traffic Management (15%):	$46,997.86
			Traffic Police (5%):	$15,665.95
			Escalation (4% each year for 2 years):	$25,566.83
			Total:	$498,678.57

SAY: $500,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

The estimate prepared is for construction costs only.

Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume no proposed granite curb, and assume all existing curb is to be removed and discarded.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

ORDER OF MAGNITUDE COST ESTIMATE

Granite Curbing	Unit Cost	Quantity		Total
Granite Curb R&D (Item 594)	$14.00 /FT	52	FT	$728.00
				$728.00
		Granite Curbing SAY=		**$1,000.00**

Signing & Striping	Unit Cost	Quantity		Total
Stop Sign	$20.00 /SF	5.18	SF	$103.60
Sign Post	$60.00 /EA	1	EA	$60.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	971.74	FT	$1,603.37
6" White Thermoplastic (Item 866.106)	$1.65 /FT	1199.25	FT	$1,978.77
12" White Thermoplastic (Item 866.112)	$6.25 /FT	15.50	FT	$96.88
				$3,842.62
		Total Signing & Striping SAY=		**$3,900.00**

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N/F
ELIZABETH A. HALEY
200 NORTH STREET
MAP 57 LOT 14

N/F
JAMES E. HOWLEY
3 HARDING STREET
MAP 57 LOT 12

N/F
JOSHUA B. BOCK
198 NORTH STREET
MAP 57 LOT 13

N/F
ROBERT D. SWANSON
5 HARDING STREET
MAP 57 LOT 11

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 52

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 53

EXCLUSIVE USE EASEMENT

NORTH STREET

HARDING STREET

STONE BOUND
W/ DRILL HOLE
FIRM
(FOUND)

PROP SPLITTER ISLAND

PROP LOAM & SEED

PROP TRUCK APRON

PROP SPLITTER ISLAND

RETAIN UTILITY POLE

IRON ROD
w/ NO CAP
(FOUND)

IRON ROD
w/ NO CAP
(FOUND)

N/F
BEN J. FLAMAND
14 HARDING STREET
MAP 57 LOT 66

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DANIEL A. MEDEIROS
190 NORTH STREET
MAP 57 LOT 54

20' WIDE SEWER EASEMENT

STONE BOUND
W/ DRILL HOLE
FIRM
(FOUND)

Harding St at North St - Option 2 - Roundabout

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

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CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Job Number: **15677.00**
North at Harding - Option 2 - Roundabout **Date:** **December 10, 2024**
Conceptual Estimate **Preparer:** **BMM**
Medfield, MA **Checked by:** **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	2400	SY	$338,409.71
Stamped Cem Conc Truck Apron	$274.00 /SY	171	SY	$46,745.92
Cem Conc Splitter Island	$150.00 /SY	129	SY	$19,289.00
HMA Drive	$105.00 /SY	39	SY	$4,127.67
Loam & Seed	$38.00 /SY	725	SY	$27,558.87
Granite Curbing	$61,000.00 /LS	1	LS	$61,000.00
Signing & Striping	$6,900.00 /LS	1	LS	$6,900.00
			Subtotal:	$504,031.17
			Mobilization (3%):	$15,120.94
			Construction Staking (3%):	$15,120.94
			Design/Construction Contingencies (25%):	$126,007.79
			Construction Staging/Traffic Management (15%):	$75,604.68
			Traffic Police (5%):	$25,201.56
			Escalation (4% each year for 2 years):	$41,128.94
			Total:	$802,216.01

SAY: $810,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

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Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume Granite Curb quantities include all straight curb and curved curb. Assume transition pieces (for driveways), splayed ends & curb inlets for drainage structures will not be required.
Assume 50% of existing granite curbing can be re-used and 50% discarded.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Stamped Cem Conc Truck Apron

	Depth (in)	Conversion	Unit Cost	
Stamped Concrete Truck Apron	6.00	N/A	$220.00 /SY	$220.00
Gravel Borrow (Item 151.)	8.00	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	14	0.0278 CY/in	$70.00 /CY	$27.24
Calcum Chloride for Roadway Dust Control (Item 440.)	Apply 1	1.500 LB/SY	$0.50 /LB	$0.50
Fine Grading and Compacting (Item 170.1)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$273.09
		Full Depth Pavement COST PER SY=		**$274.00**

Cem Conc Splitter Island

	Depth (in)	Conversion	Unit Cost	
Cem Conc Walk (Item 701.)	4	N/A	$100.00 /SY	$100.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$149.00
		Cem Conc Walk COST PER SY=		**$150.00**

ORDER OF MAGNITUDE COST ESTIMATE

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Granite Curbing	Unit Cost	Quantity		Total
Granite Curb (Items 504, 504.1)	$67.00 /FT	467	FT	$31,319.15
Granite Curb Type T-100 (Item 507.1)	$165.00 /FT	170	FT	$27,991.59
Granite Curb R&R (Item 580.)	$35.00 /FT	26	FT	$908.25
Granite Curb R&D (Item 594.)	$14.00 /FT	26	FT	$363.30
				$60,582.29
			Granite Curbing SAY=	**$61,000.00**

Signing & Striping	Unit Cost	Quantity		Total
Sign (Item 832.)	$20.00 /SF	69.5	SF	$1,389.00
Sign Post (Item 847.1)	$60.00 /EA	15	EA	$900.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	1,400	FT	$2,310.00
6" White Thermoplastic (Item 866.106)	$1.65 /FT	1,340	FT	$2,211.00
				$6,810.00
			Total Signing & Striping SAY=	**$6,900.00**

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N/F
ELIZABETH A. HALEY
200 NORTH STREET
MAP 57 LOT 14

EXCLUSIVE USE EASEMENT

N/F
JAMES E. HOWLEY
3 HARDING STREET
MAP 57 LOT 12

N/F
JOSHUA B. BOCK
198 NORTH STREET
MAP 57 LOT 13

N/F
ROBERT D. SWANSON
5 HARDING STREET
MAP 57 LOT 11

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 52

N/F
TOWN OF MEDFIELD
NORTH STREET
MAP 57 LOT 53

NORTH STREET

HARDING STREET

STONE BOUND
W/ DRILL HOLE
FIRM
(FOUND)

PROP LOAM & SEED

IRON ROD
w/ NO CAP
(FOUND)

N/F
BEN J. FLAMAND
14 HARDING STREET
MAP 57 LOT 66

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DAVID D. KEMMERER
12 HARDING STREET
MAP 57 LOT 67

N/F
DANIEL A. MEDEIROS
190 NORTH STREET
MAP 57 LOT 54

20' WIDE SEWER
EASEMENT

Harding St at North St - Option 3 - North Street SB Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Job Number: **15677.00**
North at Harding - Option 3 **Date:** **December 9, 2024**
Conceptual Estimate **Preparer:** **BMM**
Medfield, MA **Checked by:** **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	2261	SY	$318,857.87
HMA Drive	$105.00 /SY	39	SY	$4,127.67
Loam & Seed	$38.00 /SY	907	SY	$34,464.31
Granite Curbing	$1,000.00 /LS	1	LS	$1,000.00
Signing & Striping	$4,600.00 /LS	1	LS	$4,600.00
			Subtotal:	$363,049.85
			Mobilization (3%):	$10,891.50
			Construction Staking (3%):	$10,891.50
			Design/Construction Contingencies (25%):	$90,762.46
			Construction Staging/Traffic Management (15%):	$54,457.48
			Traffic Police (5%):	$18,152.49
			Escalation (4% each year for 2 years):	$29,624.87
			Total:	$577,830.14

SAY: $580,000.00

ASSUMPTIONS

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Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume no proposed granite curb, and assume all existing curbing is to be removed and discarded.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume utility pole and overhead modifications will be required. Assume all other utilites will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Granite Curbing	Unit Cost	Quantity	Total
Granite Curb R&D (Item 594.)	$14.00 /FT	52 FT	$728.00
			$728.00
		Granite Curbing SAY=	**$1,000.00**

Signing & Striping	Unit Cost	Quantity	Total
Sign	$20.00 /SF	11.7 SF	$234.00
Sign Post	$60.00 /EA	3 EA	$180.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	1,050 FT	$1,732.50
6" White Thermoplastic (Item 866.106)	$1.65 /FT	1,225 FT	$2,021.25
12" White Thermoplastic (Item 866.112)	$6.25 /FT	65 FT	$406.25
			$4,574.00
		Total Signing & Striping SAY=	**$4,600.00**

Medfield State Hospital Redevelopment
Off-Site Intersection Analysis - Harding Street at North Street
Alternatives Ranking Matrix

	Right-of-Way Impacts	Environmental Resource Area Impacts	Traffic Operations / Capacity	Safety	Constructability	Construction Cost	Total Average Weighted Score (Out of 5)	Ranking
Alternative 1 - Harding St Stop	5	4	3	3	4	4	3.83	2
Alternative 2 - Roundabout	5	4	5	5	3	2	4.00	1
Alternative 2 - North St Stop	5	4	2	3	4	4	3.67	3

Ranking 1-5, with 5 as high (favorable) and 1 as low (unfavorable).

note: The alternatives ranking matrix has been prepared as a preliminary comparison tool to assist the Town in evaluating each of the concepts according to various criteria. Please note, the scoring for each alternative shown in the matrices is subjective and is based on evaluation of the site conditions and how each concept is anticipated to meet the project's goals.

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HARDING STREET

WEST STREET

HARDING STREET

WF 3-100 START

WF 3-101

WF 3-102

WF 3-103

WF 3-104 END

PROP LOAM & SEED

EXCLUSIVE USE EASEMENT

RETAIN UTILITY POLE

PROP HMA DRIVE

2'

14'

14'

2'

West St at Harding St - Option 1 - Harding Street Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Job Number: **15677.00**
West at Harding - Option 1 **Date:** **December 10, 2024**
Conceptual Estimate **Preparer:** **BMM**
Medfield, MA **Checked by:** **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	1559	SY	$219,779.83
HMA Drive	$105.00 /SY	30	SY	$3,196.67
Loam & Seed	$38.00 /SY	211	SY	$8,015.04
Signing & Striping	$2,700.00 /LS	1	LS	$2,700.00
			Subtotal:	$233,691.54
			Mobilization (3%):	$7,010.75
			Construction Staking (3%):	$7,010.75
			Design/Construction Contingencies (25%):	$58,422.89
			Construction Staging/Traffic Management (15%):	$35,053.73
			Traffic Police (5%):	$11,684.58
			Escalation (4% each year for 2 years):	$19,069.23
			Total:	$371,943.46

SAY: $380,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

The estimate prepared is for construction costs only.

Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume no proposed granite curbing.

Guardrail
Assume existing guardrail can be retained.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Signing & Striping	Unit Cost	Quantity	Total
Stop Sign	$20.00 /SF	5.18 SF	$103.60
Sign Post	$60.00 /EA	1 EA	$60.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	593 FT	$978.79
6" White Thermoplastic (Item 866.106)	$1.65 /FT	746 FT	$1,231.61
12" White Thermoplastic (Item 866.112)	$6.25 /FT	40 FT	$247.79
			$2,621.79
		Total Signing & Striping SAY=	**$2,700.00**

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HARDING STREET

WEST STREET

RETAIN UTILITY POLE

REPLACE GRAIL

PROP HMA DRIVE

PROP HMA DRIVE

PROP LOAM & SEED

EXCLUSIVE USE EASEMENT

WF 3-100 START

WF 3-101

WF 3-102

WF 3-103

WF 3-104 END

11'

11'

25'

15'

15'

5'

West St at Harding St - Option 2 - West Street Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

vhb

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Job Number: **15677.00**
West at Harding - Option 2 **Date:** **December 10, 2024**
Conceptual Estimate **Preparer:** **BMM**
Medfield, MA **Checked by:**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	1426	SY	$201,047.20
HMA Drive	$105.00 /SY	64	SY	$6,716.50
Loam & Seed	$38.00 /SY	422	SY	$16,043.18
Signing & Striping	$2,800.00 /LS	1	LS	$2,800.00
Guardrail	$10,900.00 /LS	1	LS	$10,900.00
			Subtotal:	$237,506.88
			Mobilization (3%):	$7,125.21
			Construction Staking (3%):	$7,125.21
			Design/Construction Contingencies (25%):	$59,376.72
			Construction Staging/Traffic Management (15%):	$35,626.03
			Traffic Police (5%):	$11,875.34
			Escalation (4% each year for 2 years):	$19,380.56
			Total:	$378,015.95

SAY: $380,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

The estimate prepared is for construction costs only.

Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume no proposed granite curbing.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Signing & Striping	Unit Cost	Quantity	Total
Stop Sign	$20.00 /SF	5.18 SF	$103.60
Sign Post	$60.00 /EA	1 EA	$60.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	713 FT	$1,176.42
6" White Thermoplastic (Item 866.106)	$1.65 /FT	757 FT	$1,249.56
12" White Thermoplastic (Item 866.112)	$6.25 /FT	20 FT	$126.98
			$2,716.56
		Total Signing & Striping SAY=	**$2,800.00**

Guardrail	Unit Cost	Quantity	Total
Tangent End (Item 627.82)	$6,000.00 /EA	1 EA	$6,000.00
Steel w-beam (Item 620.12, 620.32)	$52.00 /FT	45 FT	$2,340.00
R&D Exist Guardrail (Item 630.2)	$6.00 /FT	68 FT	$408.00
Transition to NCHRP (Item 628.21)	$2,100.00 /EA	1 EA	$2,100.00
			$10,848.00
		Total Guardrail SAY=	**$10,900.00**

Medfield State Hospital Redevelopment
Off-Site Intersection Analysis - Harding Street at West Street
Alternatives Ranking Matrix

	Right-of-Way Impacts	Environmental Resource Area Impacts	Traffic Operations / Capacity	Safety	Constructability	Construction Cost	Total Average Weighted Score (Out of 5)	Ranking
Alternative 1 - Harding St Stop	5	4	2	3	4	4	3.67	2
Alternative 2 - West St Stop	5	4	4	4	4	4	4.17	1

Ranking 1-5, with 5 as high (favorable) and 1 as low (unfavorable).

note: The alternatives ranking matrix has been prepared as a preliminary comparison tool to assist the Town in evaluating each of the concepts according to various criteria. Please note, the scoring for each alternative shown in the matrices is subjective and is based on evaluation of the site conditions and how each concept is anticipated to meet the project's goals.

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HARDING STREET

SURREY RUN

75' WIDE COMMONWEALTH OF MASS RIGHT OF WAY

CONC. BOUND
FIRM
(FOUND)

PROP LOAM & SEED

PROP LOAM & SEED

4' 11' 11' 4'

4' 11' 11' 4'

PROP LOAM & SEED

IRON ROD
W/ NO CAP
(FOUND)

HOSPITAL ROAD

CLAYTON STREET

HARDING STREET

CONC. BOUND
W/ DRILL HOLE
FIRM
(FOUND)

CONC. BOUND
W/ DRILL HOLE
FIRM
(FOUND)

CONC. BOUND
W/ PLUG
FIRM
(FOUND+HELD)

Harding St at Hospital St - Option 1 - Harding Street SB Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

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HARDING STREET

SURREY RUN

15' WIDE COMMONWEALTH OF MASS. RIGHT OF WAY

CONC. BOUND
FIRM
(FOUND)

PROP LOAM & SEED

PROP LOAM & SEED

4' 11' 11' 4'

4' 11' 11' 4'

HOSPITAL ROAD

PROP LOAM & SEED

IRON ROD
W/ NO CAP
(FOUND)

CLAYTON STREET

HARDING STREET

CONC. BOUND
W/ DRILL HOLE
FIRM
(FOUND)

CONC. BOUND
W/ DRILL HOLE
FIRM
(FOUND)

CONC. BOUND
W/ PLUG
FIRM
(FOUND+HELD)

Harding St at Hospital St - Option 1a - 3-Way Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

vhb

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Hospital at Harding - Option 1
Conceptual Estimate
Medfield, MA

Job Number: **15677.00**
Date: **December 10, 2024**
Preparer: **BMM**
Checked by: **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	1591	SY	$224,318.47
HMA Drive	$105.00 /SY	11	SY	$1,131.67
Loam & Seed	$38.00 /SY	516	SY	$19,608.55
Granite Curbing	$26,000.00 /LS	1	LS	$26,000.00
Signing & Striping	$3,600.00 /LS	1	LS	$3,600.00
			Subtotal:	$274,658.68
			Mobilization (3%):	$8,239.76
			Construction Staking (3%):	$8,239.76
			Design/Construction Contingencies (25%):	$68,664.67
			Construction Staging/Traffic Management (15%):	$41,198.80
			Traffic Police (5%):	$13,732.93
			Escalation (4% each year for 2 years):	$22,412.15
			Total:	$437,146.76

SAY: $440,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

The estimate prepared is for construction costs only.

Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume Granite Curb quantities include all straight curb, curved curb, transition pieces (for driveways), splayed ends & curb inlets for drainage structures.
Assume 50% of existing granite curbing can be re-used and 50% discarded.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Granite Curbing	Unit Cost	Quantity		Total
Granite Curb (Items 504, 504.1, 509, 509.1)	$67.00 /FT	219	FT	$14,644.55
Granite Curb R&R (Item 580.)	$35.00 /FT	175	FT	$6,109.40
Granite Curb R&D (Item 594.)	$14.00 /FT	175	FT	$2,443.76
Granite Edging R&D (Item 597.)	$20.00 /FT	110	FT	$2,200.00
				$25,397.71
			Granite Curbing SAY=	**$26,000.00**

Signing & Striping	Unit Cost	Quantity		Total
Stop Sign	$20.00 /SF	15.54	SF	$310.80
Sign Post	$60.00 /EA	3	EA	$180.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	782.18	FT	$1,290.59
6" White Thermoplastic (Item 866.106)	$1.65 /FT	915.02	FT	$1,509.78
12" White Thermoplastic (Item 866.112)	$6.25 /FT	49.03	FT	$306.46
				$3,597.63
			Signing & Striping SAY=	**$3,600.00**

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HARDING STREET

SURREY RUN

75' WIDE COMMONWEALTH OF MASS RIGHT OF WAY

PROP LOAM & SEED

PROP LOAM & SEED

HOSPITAL STREET

CLAYTON STREET

HARDING STREET

Harding St at Hospital St - Option 2 - Hospital Street Stop Control

Medfield State Hospital - Offsite Improvements

Medfield, MA

Source:
Prepared for:
Date:

0 10 20 40 Feet

vhb

CONCEPTUAL CONSTRUCTION COST ESTIMATE

FULL BUILD OUT

Hospital at Harding - Option 2
Conceptual Estimate
Medfield, MA

Job Number: **15677.00**
Date: **December 10, 2024**
Preparer: **BMM**
Checked by: **DMK**

Description	Unit Price	Quantity		Total Cost
Full Depth Pavement	$141.00 /SY	1360	SY	$191,792.90
HMA Drive	$105.00 /SY	10	SY	$1,009.17
Loam & Seed	$38.00 /SY	377	SY	$14,337.40
Granite Curbing	$39,000.00 /LS	1	LS	$39,000.00
Signing & Striping	$3,300.00 /LS	1	LS	$3,300.00
			Subtotal:	$249,439.47
			Mobilization (3%):	$7,483.18
			Construction Staking (3%):	$7,483.18
			Design/Construction Contingencies (25%):	$62,359.87
			Construction Staging/Traffic Management (15%):	$37,415.92
			Traffic Police (5%):	$12,471.97
			Escalation (4% each year for 2 years):	$20,354.26
			Total:	$397,007.86

SAY: $400,000.00

ASSUMPTIONS

The following is an Order of Magnitude Cost Estimate.

The estimate prepared is for construction costs only.

Additionally, The following assumptions were made in preparing the estimate:

Where practical, costs are based on MassDOT's weighted average bid prices on state projects during the past 6 months in District 3.

Refer to concept plans for limits of work included in this estimate.

Milling & Overlay
Assume no Milling & Overlay.

Full Depth Pavement
Assume that full depth pavement includes: 1¾" superpave surface course, 2" superpave intermediate course, 4" superpave base course, 4" dense graded crushed stone sub-base, and 8" gravel borrow

Cement Concrete PCR
Assume no PCR's due to lack of existing/proposed sidewalks.

Loam & Seed
Assume 4" loam and seed is used for all areas outside of pavement that is graded to meet existing.

Sidewalks
Assume no proposed sidewalks.

Sawcutting
Assume sawcuts are included in the respective items per the MassDOT 2024 Standard Specifications.

Granite Curbing
Assume Granite Curb quantities include all straight curb, curved curb, transition pieces (for driveways), splayed ends & curb inlets for drainage structures.
Assume 50% of existing granite curbing can be re-used and 50% discarded.

Storm Drainage

Assume that existing drainage structures and pipes within the project limits will be retained, adjusted, remodeled or rebuilt, and only additional structures will be added in to system.

Utilities

Assume that the existing utilities will be retained.

Signing & Striping

Assume removal and disposal or stacking of existing signs are covered in congtingencies.
Assume all new signs will be required for the project.
Assume all new striping on the roadway within the project limit will be thermoplastic.

Miscellaneous

Work not listed above or on the Conceptual Construction Cost Estimate are considered part of contingencies.

This estimate does not include costs associated with design, permitting, coordination with utility companies, providing a resident engineer, Town labor or right of way aquisitions.

ORDER OF MAGNITUDE COST ESTIMATE

Full Depth Pavement (Superpave)

	Depth (in)	Conversion	Unit Cost	
Superpave Surface Course (Item 450.22)	1.75	0.0560 Ton/SY*in	$182.00 /Ton	$17.84
Superpave Intermediate Course (Item 450.31)	2	0.0560 Ton/SY*in	$175.00 /Ton	$19.60
Superpave Base Course (Item 450.42)	4	0.0560 Ton/SY*in	$155.00 /Ton	$34.72
Dense Graded Crushed Stone For Sub-Base (Item 402.)	4	0.0278 CY/in	$90.00 /CY	$10.01
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	16	0.0278 CY/in	$70.00 /CY	$30.65
Asphalt Emulsion for Tack Coat (Item 452.)	Apply 2	0.050 Gal/SY	$8.75 /Gal	$0.88
Calcium Chloride for Dust Control (Item 440.)	Apply 2	1.5 LB/SY	$0.50 /LB	$1.50
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$140.83
		Full Depth Pavement COST PER SY=		**$141.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4	0.0278 Yd/in	$100.00 /CY	$11.12
Seed (Item 765)			$3.00 /SY	$3.00
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
			per SY Total=	$37.47
		Loam Borrow and Seed COST PER SY=		**$38.00**

HMA Driveway

	Depth (in)	Conversion	Unit Cost	
HMA Sidewalk or Driveway (Item 702.)	4	0.0560 Ton/SY*in	$250.00 /TON	$56.00
Gravel Borrow (Item 151.)	8	0.0278 CY/in	$69.00 /CY	$15.35
Unclassified Excavation (Item 120.1)	12	0.0278 CY/in	$70.00 /CY	$23.35
Water For Roadway Dust Control (Item 443.)	N/A	0.003 MGL/SY	$100.00 /MGL	$0.30
Fine Grading and Compacting (Item 170.)	N/A	N/A	$10.00 /SY	$10.00
			per SY Total=	$105.00
		HMA Driveway COST PER SY=		**$105.00**

ORDER OF MAGNITUDE COST ESTIMATE

Granite Curbing	Unit Cost	Quantity		Total
Granite Curb (Items 504, 504.1, 509, 509.1)	$67.00 /FT	423	FT	$28,364.79
Granite Curb R&R (Item 580.)	$35.00 /FT	175	FT	$6,109.40
Granite Curb R&D (Item 594.)	$14.00 /FT	175	FT	$2,443.76
Granite Edging R&D (Item 597.)	$15.00 /FT	110	FT	$1,650.00
				$38,567.95
			Granite Curbing SAY=	**$39,000.00**

Signing & Striping	Unit Cost	Quantity		Total
Stop Sign (Item 832.)	$20.00 /SF	15.54	SF	$310.80
Sign Post (Item 847.1)	$60.00 /EA	3	EA	$180.00
6" Yellow Thermoplastic (Item 867.106)	$1.65 /FT	693.07	FT	$1,143.57
6" White Thermoplastic (Item 866.106)	$1.65 /FT	806.97	FT	$1,331.51
12" White Thermoplastic (Item 866.112)	$6.25 /FT	44.47	FT	$277.96
				$3,243.83
			Total Signing & Striping SAY=	**$3,300.00**

Medfield State Hospital Redevelopment
Off-Site Intersection Analysis - Harding Street at Hospital Road
Alternatives Ranking Matrix

	Right-of-Way Impacts	Environmental Resource Area Impacts	Traffic Operations / Capacity	Safety	Constructability	Construction Cost	Total Average Weighted Score (Out of 5)	Ranking
Alternative 1 - Harding St Stop	5	5	5	3	4	4	4.33	3
Alternative 1a - 3-Way Stop	5	5	4	5	4	4	4.50	1
Alternative 2 - Hospital St Stop	5	5	5	4	4	4	4.50	1

Ranking 1-5, with 5 as high (favorable) and 1 as low (unfavorable).

note: The alternatives ranking matrix has been prepared as a preliminary comparison tool to assist the Town in evaluating each of the concepts according to various criteria. Please note, the scoring for each alternative shown in the matrices is subjective and is based on evaluation of the site conditions and how each concept is anticipated to meet the project's goals.