STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition 2017.

DESIGN LOADING

Live Load HL-93

TRAFFIC DATA

Current (2018) AADT	1100
Future (2028) AADT	1210
Future (2038) AADT	1320
DHV - % of AADT	14%
Design Hour Volume	185
Heavy Trucks (% of AADT)	33%
Heavy Trucks (% of DHV)	27%
Directional Distribution (% of DHV)	52%
18 kip Equivalent P 2.0	435
18 kip Equivalent P 2.5	414
Design Speed (mph)	30

MATERIALS

Concrete:	
Curbs, Sidewalk, and Transition Barriers	Class "LP"
All Other	Class "A"
Reinforcing Steel	ASTM A 615/A 615M, Grade 60
Railing:	
Rail bars	ASTM A 500, Grade B
Rail posts, shapes & plates	AASHTO M 270M/M 270, Grade 50
Anchor studs, washers & heavy hex nuts	AASHTO M 314, Grade 105
All other bolts & nuts (unless noted)	ASTM F3125, Grade A325

BASIC DESIGN STRESSES

Concrete	
Class "A"	f'c = 4,000 psi
Class "LP"	f'c = 5,000 psi
Reinforcing Steel	f y = 60,000 psi
Structural Steel	
ASTM A709, Grade 50	f y= 50,000 psi
ASTM A325	f u= 120,000 psi

DANFORTH
WASHINGTON COUNTY
TOWN BRIDGE
OVER
BASKAHEGAN STREAM

ROUTE 169 / SPRINGFIELD ROAD

FEDERAL AID PROJECT NO. STP - 2171(600)
PROJECT LENGTH 0.04 mi.
BRIDGE NO. 5461

LIST OF DRAWINGS

UTILITIES

Eastern Maine Electric Co-Op
Fairpoint Communications
Charter Communications
Danforth Water
Danforth Sewer

MAINTENANCE OF TRAFFIC

One lane of alternating traffic will be maintained during construction.

PROJECT LOCATION:	On Route 169/Springfield Road, 0.10 miles west of the intersection with Route 1 (Houlton Road). Lat. - 45^ 39' 35" N Long. - 67^ 52' 05" W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Deck Replacement and Railing Improvements.

WIN021716.00

STP- 2171(600)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE 4/26/18

COMMISSIONER: Bruce A. Van Note

CHIEF ENGINEER: Bruce Van Note — DATE 4-26-18

STATE OF MAINE — PETER M. PERKINS No. 8251 — REGISTERED PROFESSIONAL ENGINEER

Peter Perkins — SIGNATURE — P.E. NUMBER 8251 — DATE 4/23/18

PROJECT INFORMATION

PROGRAM	BRIDGE		
PROJECT MANAGER	Michael Wight		
DESIGNER	Peter Perkins		
CONSULTANT	CHA Consulting Inc.		
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

DANFORTH
TOWN BRIDGE

TITLE SHEET

1
OF 14

Filename:\00\BRIDGE\MSTA\001_Title.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.10	REM EXIST SUPERSTRS PROP CONTR (77 CY)	1	LS
202.12	REMOVING EXISTING STRUCTURAL CONCRETE	1	CY
202.13	REM EXIST RAILS (RET BY DEPT)	140	LF
202.202	REMOVING PAVEMENT SURFACE	520	SY
203.20	COMMON EXCAVATION	85	CY
203.25	GRANULAR BORROW	12	CY
205.51	WIDENING OF EXISTING SHOULDER, PLAN QUANTITY	190	SY
206.082	STR EA EXC-MAJOR STRUCTURES	12	CY
304.10	AGGR SUBB COURSE - GRAVEL	130	CY
403.2081	12.5 MM POLYMER MODIFIED HMA	62	TON
403.209	HOT MIX ASPHALT, 9.5 MM (INCIDENTALS)	18	TON
403.213	HOT MIX ASPHALT, 12.5 MM BASE	21	TON
403.2131	12.5 MM POLYMER MODIFIED HMA BASE	40	TON
409.15	BITUMINOUS TACK COAT - APPLIED	45	G
411.10	UNTREATED AGGREGATE SURFACE COURSE, TRUCK MEASURE	2	CY
502.21	STR CONC ABUT & RET WALL	2	CY
502.26	STR CONC RD & SW SLABS ON STEEL BRIDGE (55 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (18 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED/DELIVERED	560	LB
503.13	REINFORCING STEEL, PLACING	560	LB
505.08	SHEAR CONNECTORS (736 EA)	1	LS
507.0821	STEEL BRIDGE RAILING, 3 BAR (60 LF)	1	LS
507.0831	STEEL BRIDGE RAILING, 4 BAR (60 LF)	1	LS
507.13	TEMPORARY BRIDGE RAIL	140	LF
514.06	CURING BOX FOR CONC CYL	1	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (321 SY)	1	LS
518.61	REPAIR OF VERTICAL SURFACES >= 8.0 IN.	1	CY
526.301	TEMPORARY CONC BARRIER TYPE 1 (40 LF)	1	LS
526.34	PERMANENT CONC TRANSITION BARRIER	4	EA
527.34	WORK ZONE CRASH CUSHIONS	2	UN
606.1301	31" W-BM GR, MID-WAY SPLICE-SGL FACED	100	LF
606.1303	31" W-BM GR, MID-WAY SPLC-15' RAD & LESS	50	LF
606.1304	31" W-BM GR, MD-WY SPLICE-OVER 15' RAD	38	LF
606.1307	BRIDGE TRANSITION (ASYMMETRICAL) TYPE 1	4	EA
606.259	ANCHORAGE ASSEMBLY	4	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
608.26	CURB RAMP DETECTABLE WARNING FIELD	20	SF
609.11	VERT CURB TYPE 1	18	LF
615.07	LOAM	13	CY
618.14	SEEDING METHOD NUMBER 2	2	UN
619.12	MULCH	2	UN
619.14	EROSION CONTROL MIX	10	CY
627.733	4" WHITE OR YELLOW PAINTED PAVE MRK LINE	830	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	48	SF
627.77	REMOVING PAVEMENT MARKINGS	650	SF
627.78	TEMP 4" PAINT PVMT MARK LINE W OR Y	1380	LF
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.10	AIR COMPRESSOR (INC OPERATOR)	8	HR
631.11	AIR TOOL (INCLUDING OPERATOR)	8	HR
631.12	ALL PURPOSE EXCAVATOR	8	HR
631.131	SMALL BULLDOZER - GRADER (INCLUDING OPERATOR)	8	HR
631.15	ROLLER, EARTH AND BASE (INCLUDING OPERATOR)	8	HR
631.172	TRUCK - LARGE	8	HR
639.19	FIELD OFFICE TYPE B	1	EA
652.312	TYPE III BARRICADE	6	EA
652.33	DRUM	35	EA
652.34	CONE	35	EA
652.35	CONSTRUCTION SIGNS	105	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (100 CD)	1	LS
652.38	FLAGGER	2185	HR
656.75	TEMP SOIL EROSION & WATER POLLUTION CTRL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to Right of Way Map.

2. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.

3. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.

4. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.

5. Place loam 2 inches deep on all new or reconstructed side slopes or as directed by the Resident.

6. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item No. 619.14, Erosion Control Mix.

7. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet with an embedment of 5.5 feet in areas where the distance from the face of rail to the top of slope is less than 3 feet. Payment will be considered incidental to the guardrail pay items.

8. An NCHRP350 compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

9. Protective Coating for Concrete Surfaces shall be applied to the following areas:

   All exposed surfaces of concrete curbs and sidewalks.
   Fascias down to the drip notch.
   All exposed surfaces of Concrete Transition Barriers.
   Concrete wearing surfaces.
   Ends of superstructure slab.

10. The neoprene pad used at the abutments for the slab over backwall detail shall meet the requirements of section 711.09 of the standard specifications. The neoprene pad will not be paid for directly. Payment shall be considered incidental to the related contract items.

11. Project information referred to below may be accessed at the following MaineDOT web address: http://www.maine.gov/mdot/contractors/.

12. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

13. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:

   a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.

   b. If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.

   c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation.

14. The Contractor shall submit a Bridge Deck Demolition Plan to the Resident at least 10 business days prior to the start of demolition work. The plan shall outline the methods and equipment to be used to remove and dispose of all materials to be removed as dictated by the plans. No work related to the removal of the bridge shall be undertaken by the Contractor until MaineDOT has reviewed the Bridge Demolition Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting and finalizing the Demolition Plan will be considered incidental to the removal pay items.

15. Bridge drains and drain supports, including the connection to the existing girders, will not be paid for directly, but will be considered incidental to item 502.26.

16. The existing bridge deck slab indicated on the plans shall be removed by and become the property of the Contractor. The steel portions of the existing bridge may be coated with a lead- based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge deck. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge deck is removed, the Contractor is solely responsible for the care, custody and control of the components of the existing bridge and any hazardous waste generated as a result of the storage, recycling or disposal of the bridge components, including lead-coated steel. Payment for all labor, materials, equipment and other costs required to remove and dispose of any lead contaminated waste shall be incidental to the removal items.

17. The reinforcing steel for drilled and anchored bars shall be paid for under the items 503.12 and 503.13. No separate payment will be made for drilling and anchoring.

18. An anchorage assembly shall be provided and installed on all four guardrail end treatments.

19. Excavation 2'-0" behind the abutments and wingwall required for the deck replacement and wingwall extension shall be paid for under item 206.082.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00
BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight	BY	DATE
DESIGN-DETAILED	P. Lusitani	C. Ohnsman	3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

ESTIMATED QUANTITIES &
GENERAL CONSTRUCTION NOTES

SHEET NUMBER

2

OF 14

Filename: ...\00\BRIDGE\MSTA\003_Plan.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461 BRIDGE PLANS

PROJ. MANAGER	Michael Wight	
DESIGN-DETAILED	P. Lusitani	C. Ohnsman 3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani 3/30/2018
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY DATE SIGNATURE

P.E. NUMBER

DATE

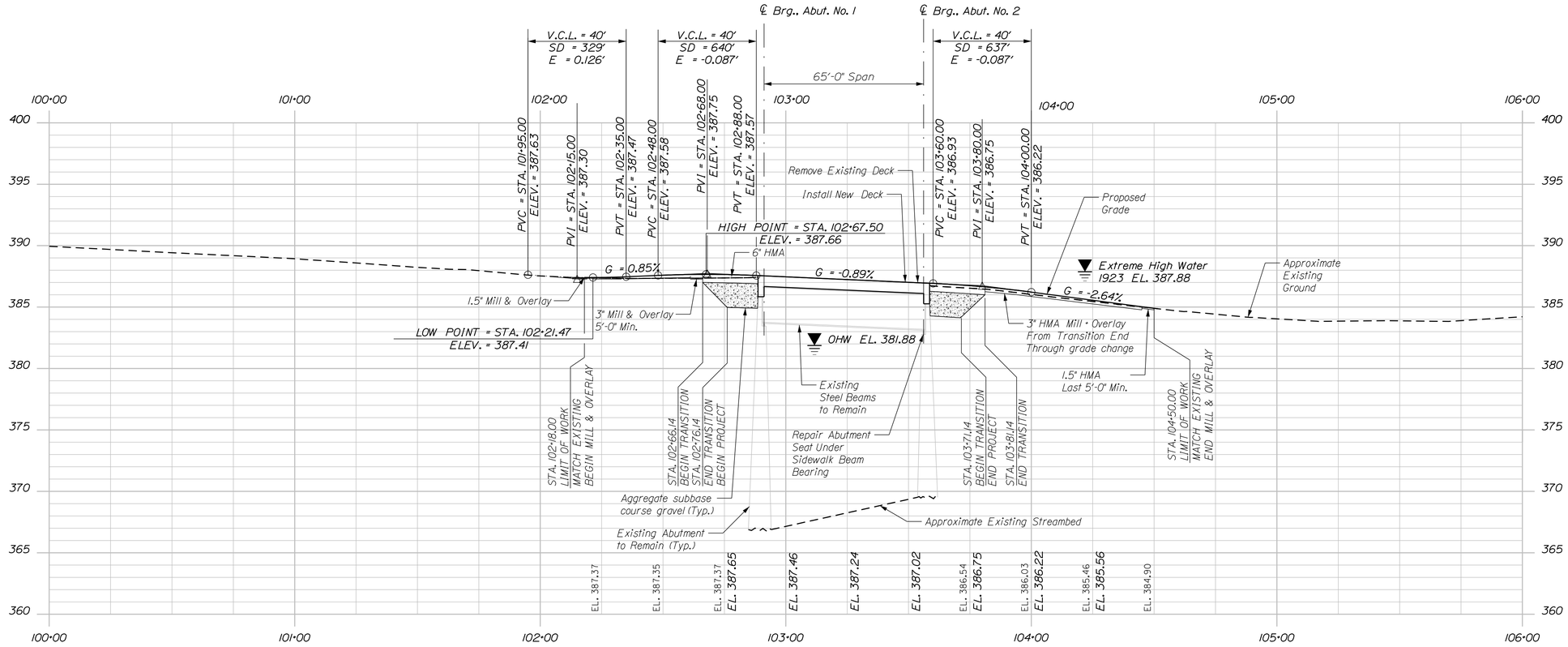
TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

GENERAL PLAN

SHEET NUMBER

3

OF 14



PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

BRIDGE NO. 5461 **WIN 021716.00** BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	Michael Wight	
DESIGN-DETAILED	P. Lusitani	C. Ohnsman 3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani 3/30/2018
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

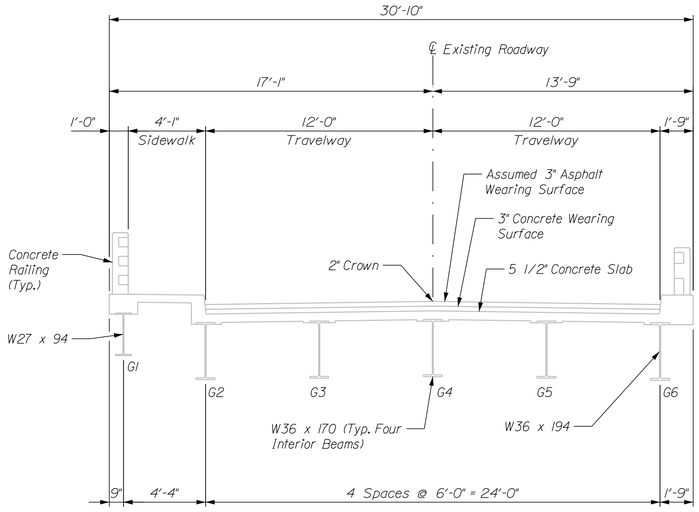
TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

PROFILE

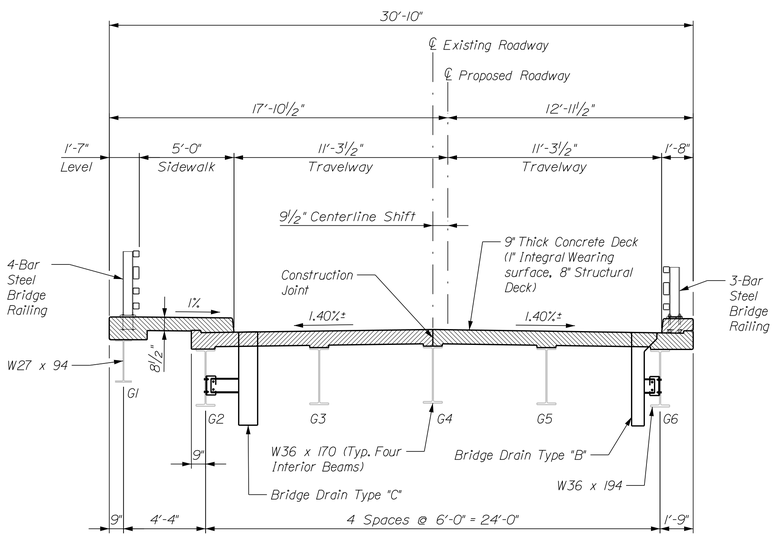
SHEET NUMBER

4

OF 14



EXISTING BRIDGE SECTION



PROPOSED BRIDGE SECTION

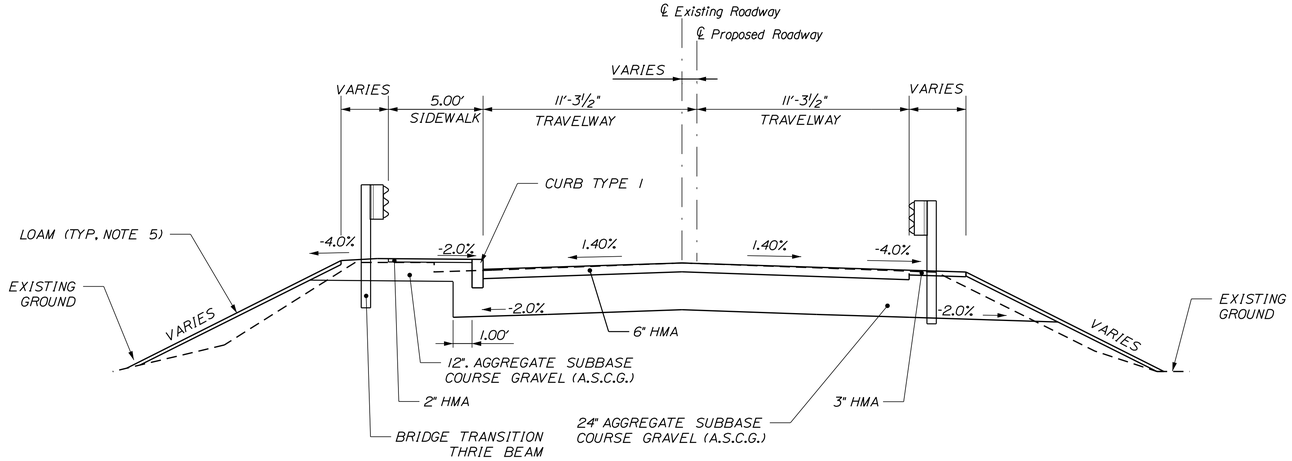
NOTES

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

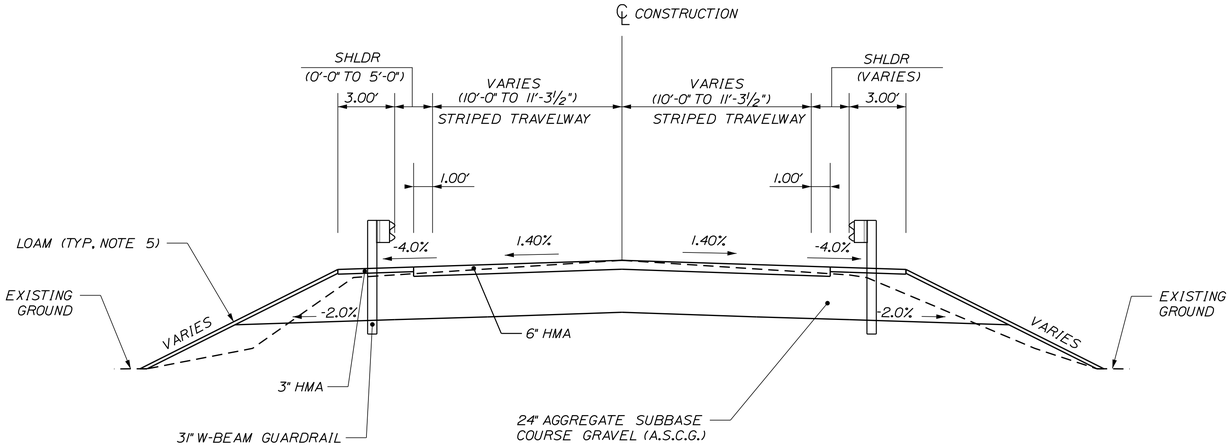
2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.

3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.

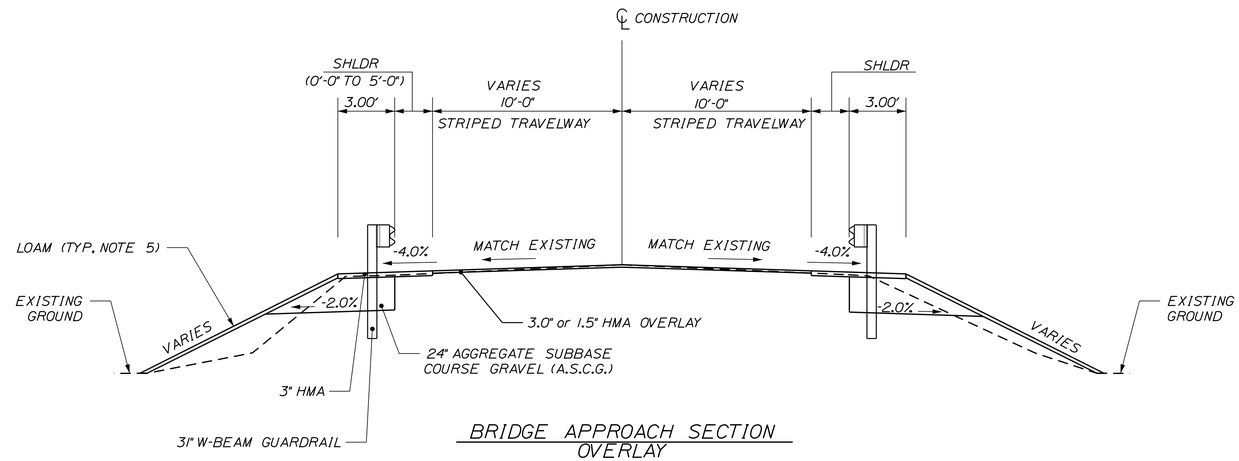
4. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVELWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.



BRIDGE APPROACH W/SIDEWALK SECTION FULL RECONSTRUCTION



BRIDGE APPROACH SECTION FULL RECONSTRUCTION



BRIDGE APPROACH SECTION OVERLAY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight		
DESIGN-DETAILED	P. Lusitani	BY	C. Ohnsman
CHECKED-REVIEWED	P. Perkins	BY	P. Lusitani
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

DATE 3/30/2018
DATE 3/30/2018

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

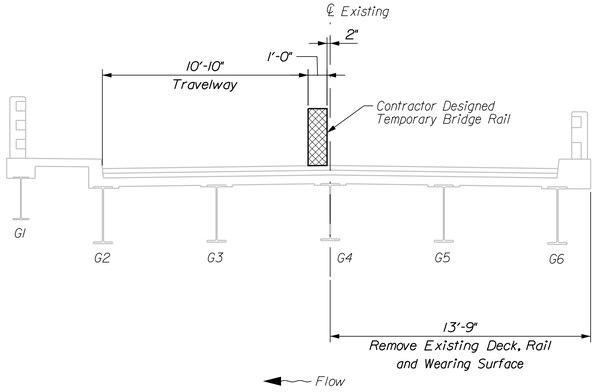
TYPICAL SECTIONS

SHEET NUMBER

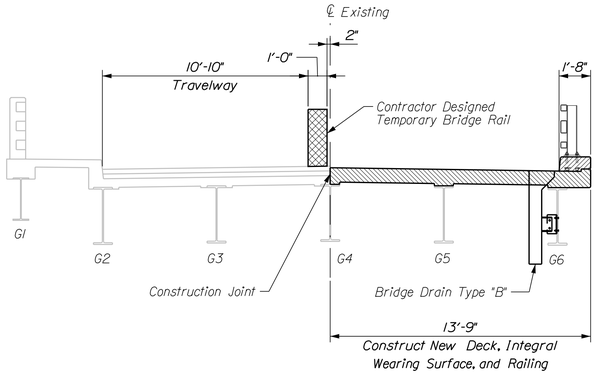
5

OF 14

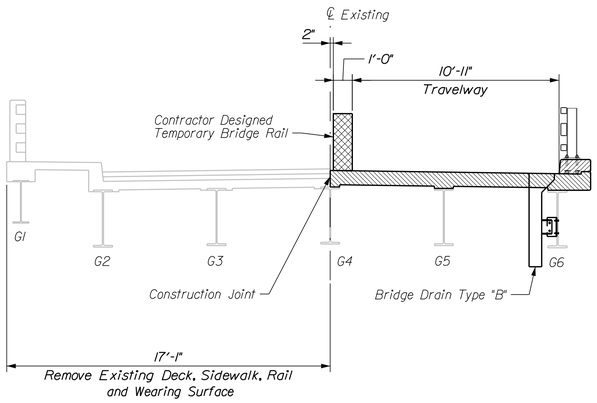
Filename: ...\00\BRIDGE\MSTA\005_Xsect.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018



STAGE 1



STAGE 2



STAGE 3

STAGED CONSTRUCTION NOTES:

Traffic shall be maintained using flaggers during the day and yield signs at night with traffic yielding to oncoming vehicles.

Pedestrians shall cross when the traffic clears

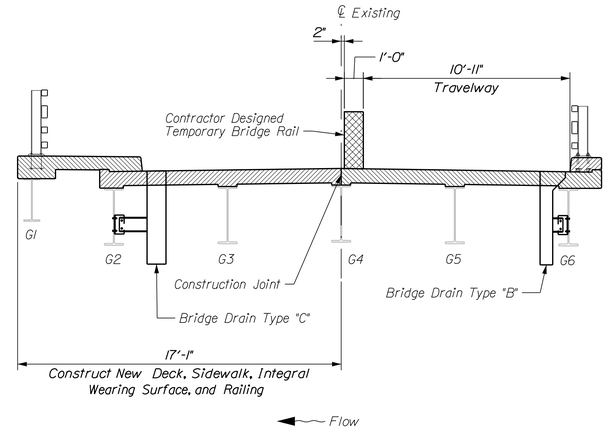
Stage 1 - Construct a 10'-10" travel lane for alternating traffic on the north (downstream) side using contractor designed temporary bridge rail. Remove the south (upstream) side of the deck, wearing surface, and railing.

Stage 2 - Maintain 10'-10" travel lane for alternating traffic on the north (downstream) side. Construct the south (upstream) side of the deck, integral wearing surface, and bridge railing.

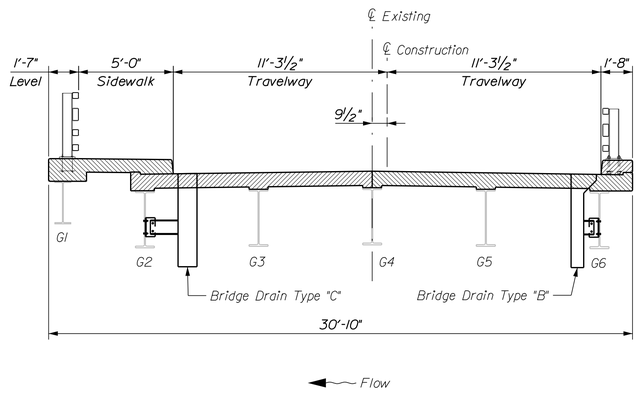
Stage 3 - Construct a 10'-11" travel lane for alternating traffic on the south (upstream) side using contractor designed temporary bridge rail. Remove the north (downstream) side of the deck, wearing surface, and railing.

Stage 4 - Maintain 10'-11" travel lane for alternating traffic on the south (upstream) side. Construct the north (downstream) side of the deck, integral wearing surface, and bridge railing.

Stage 5 - Open bridge with two travel lanes with the roadway centerline shifted 9.5" to the south (upstream). Open sidewalk for pedestrian use.



STAGE 4



STAGE 5

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight		
DESIGN-DETAILED	P. Lusitani	C. Ohnsman	3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

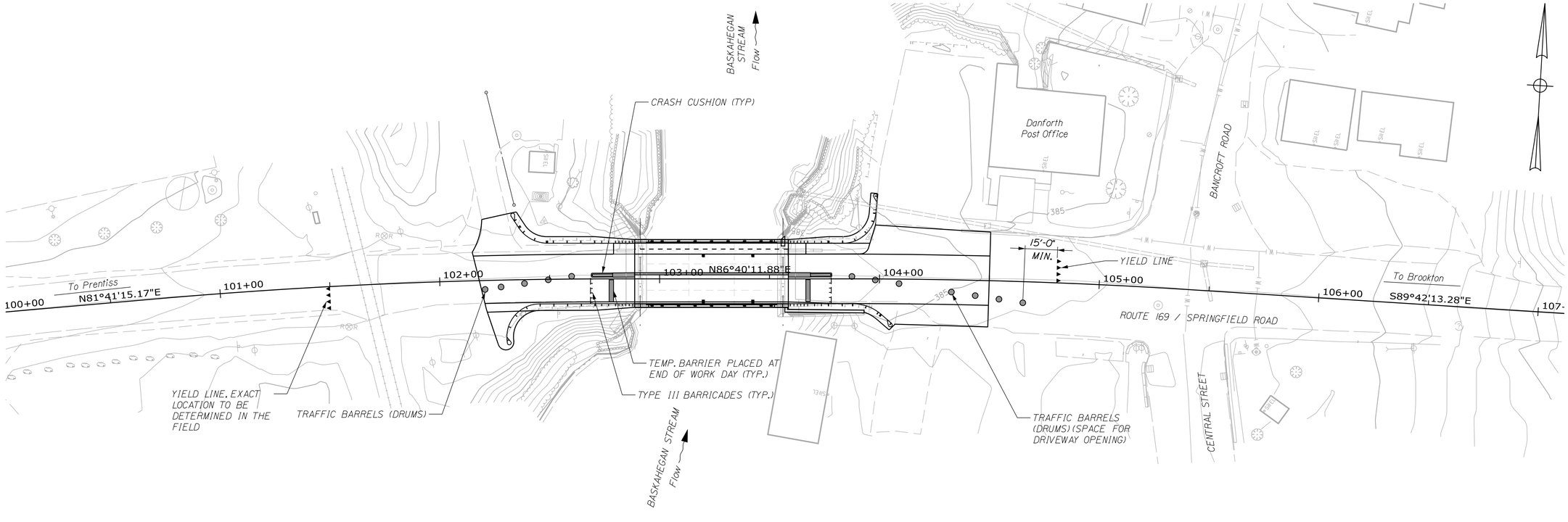
TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

STAGED CONSTRUCTION

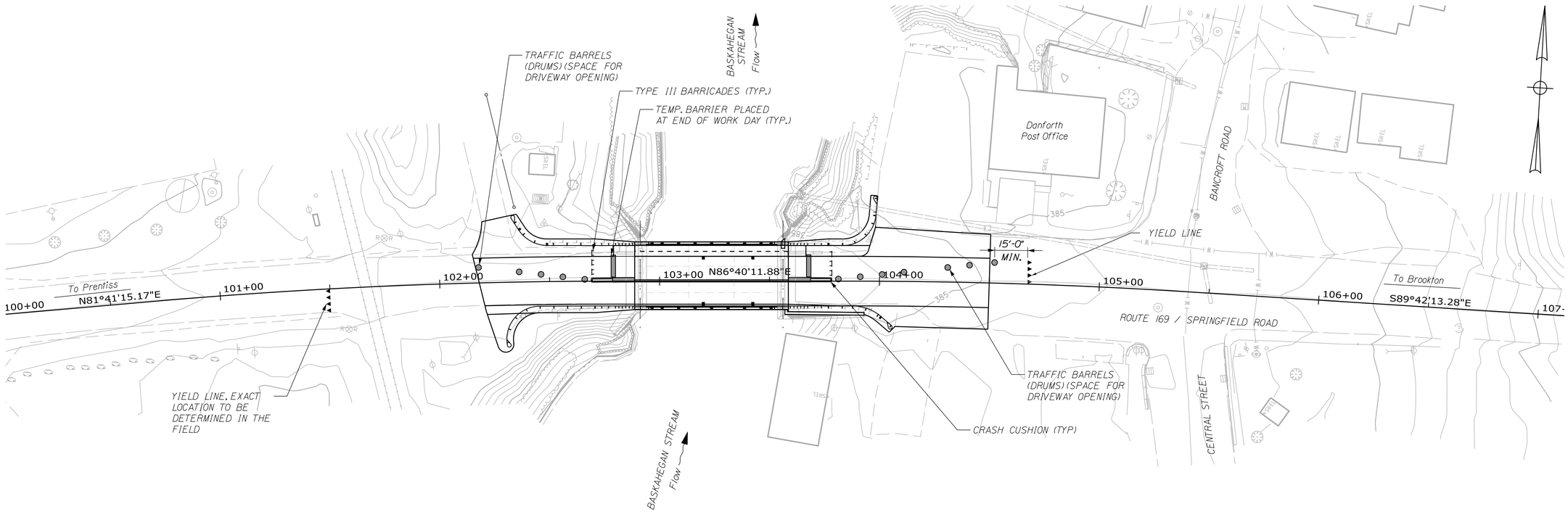
SHEET NUMBER

6

OF 14



STAGES 1 & 2



STAGES 3 & 4

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

	Michael Wight	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	P. Lusitani	C. Ohnsman	3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

STAGING PLAN

SHEET NUMBER

7

OF 14

Filename: ...\MSTA\007_Staging_Plan.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

ABUTMENT AND WINGWALL NOTES

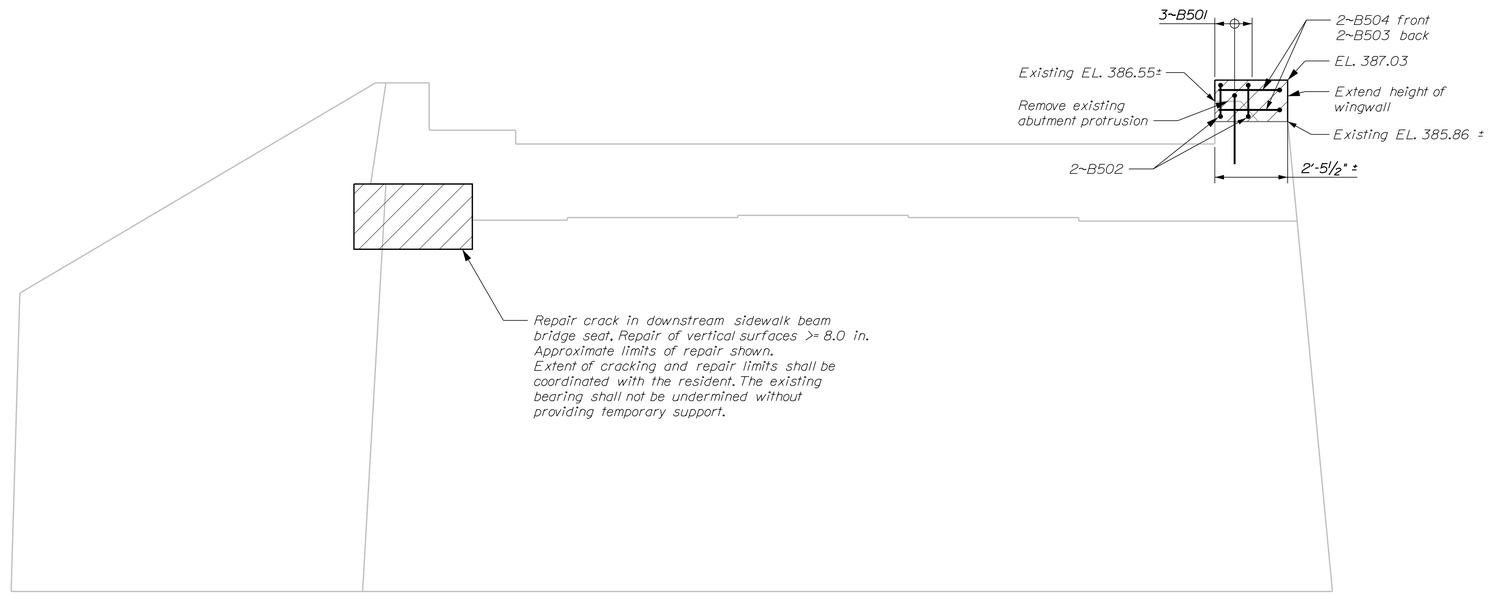
1. Reinforcing shall have 2 inches cover unless otherwise noted.

2. Existing concrete to be removed shall be sawcut one inch deep prior to removing. Costs associated with this work will be considered incidental to the concrete removal item.

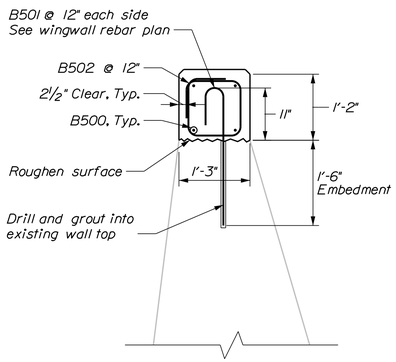
3. All exposed edges of concrete shall have a 3/4" chamfer unless noted otherwsie.

4. Roughen the top of the existing wingwall to achieve an exposed aggregate finish. Payment for this work will be made under equipment rental items.

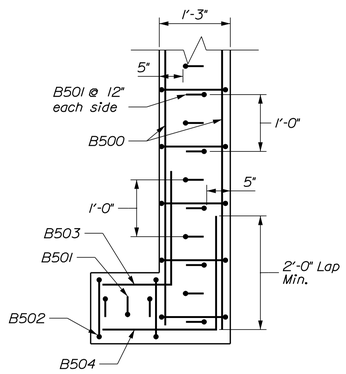
5. Removal of the southeast concrete parapet as shown will be paid for under 202.12.



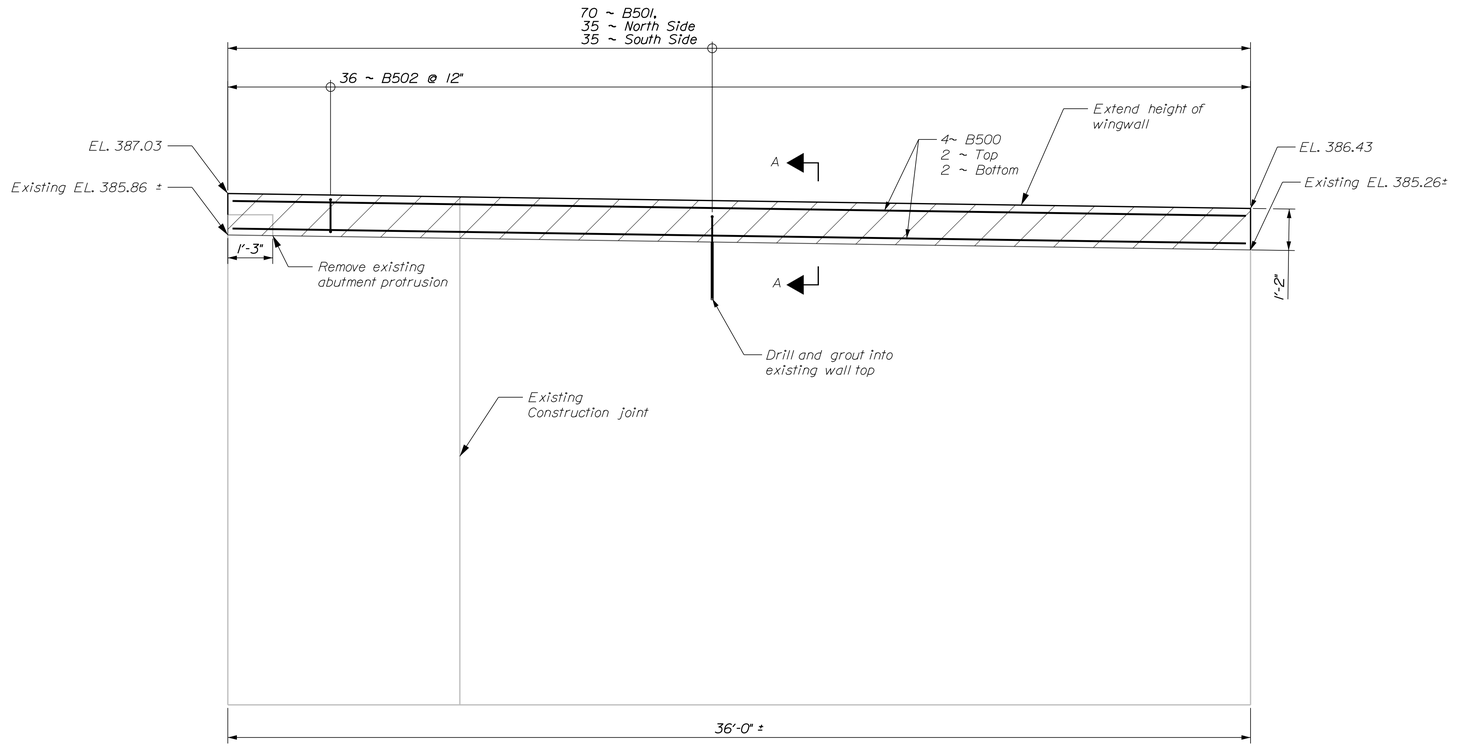
EAST ABUTMENT ELEVATION



SECTION A-A



WINGWALL REBAR PLAN



SOUTHEAST WINGWALL ELEVATION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight		
DESIGN-DETAILED	P. Lusitani	C. Ohnsman	3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

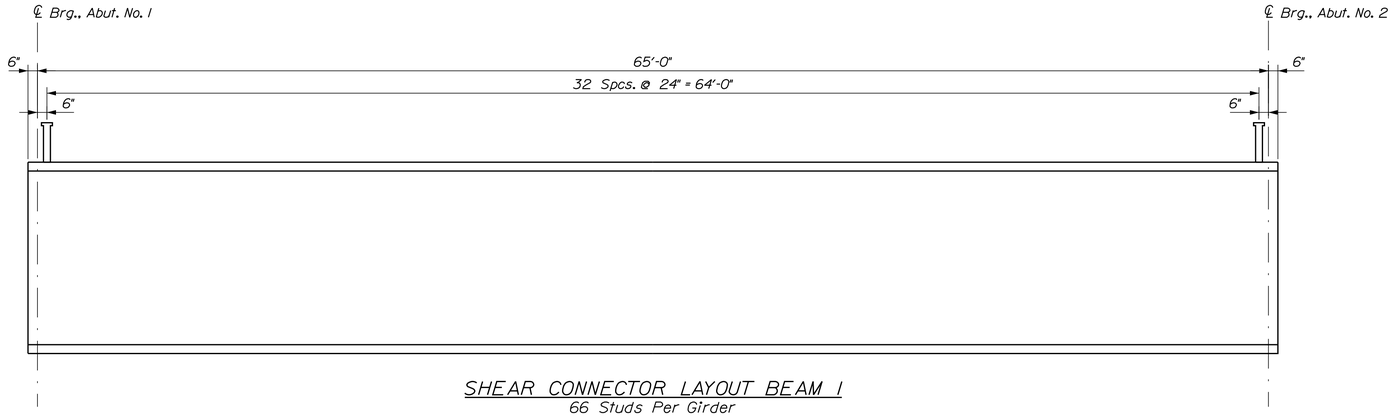
TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

SUBSTRUCTURE DETAILS

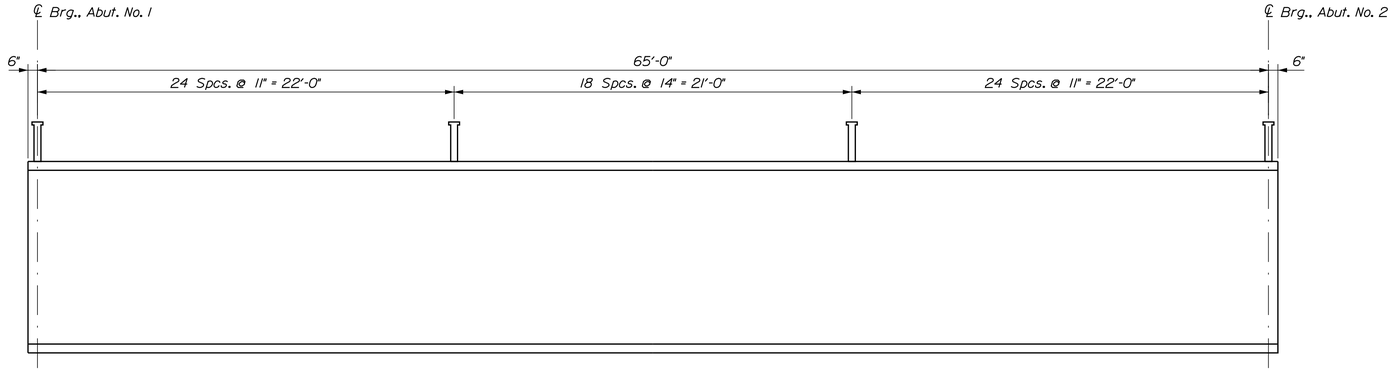
SHEET NUMBER

8

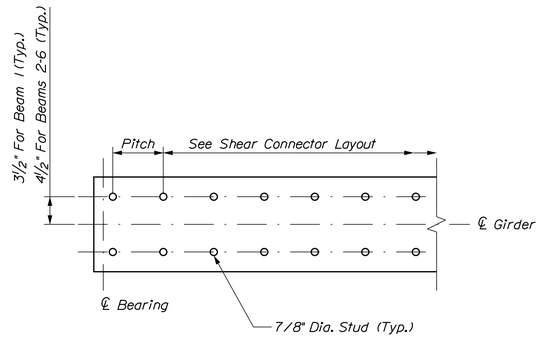
OF 14



SHEAR CONNECTOR LAYOUT BEAM 1
66 Studs Per Girder



SHEAR CONNECTOR LAYOUT BEAMS 2-6
134 Studs Per Girder (670 Studs Total)



SHEAR CONNECTOR PLAN

SHEAR CONNECTOR NOTES

1. Prior to installing the proposed shear studs, the contractor shall clean the top flange so that it is free of debris, rust, scale, oil, and other contaminents that would adversely affect the welding operation. Payment for cleaning the top flange for installation of proposed shear studs shall be incidental to item 505.08, shear connectors. If lead paint is encountered while cleaning top flanges, the Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste. See note 16 on the general notes sheet for more information.

2. Existing shear connectors shall be removed such that they project 1 inch maximum above the top of the existing top flange unless they conflict with the installation of the new shear connectors or any other work. If the existing shear connectors interfere with installation of the new shear connectors or any other work, they shall be removed completely and ground flush with the top flange. All costs associated with this work shall be incidental to related contract items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight	BY	DATE
DESIGN-DETAILED	P. Lusitani	C. Ohnsman	3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

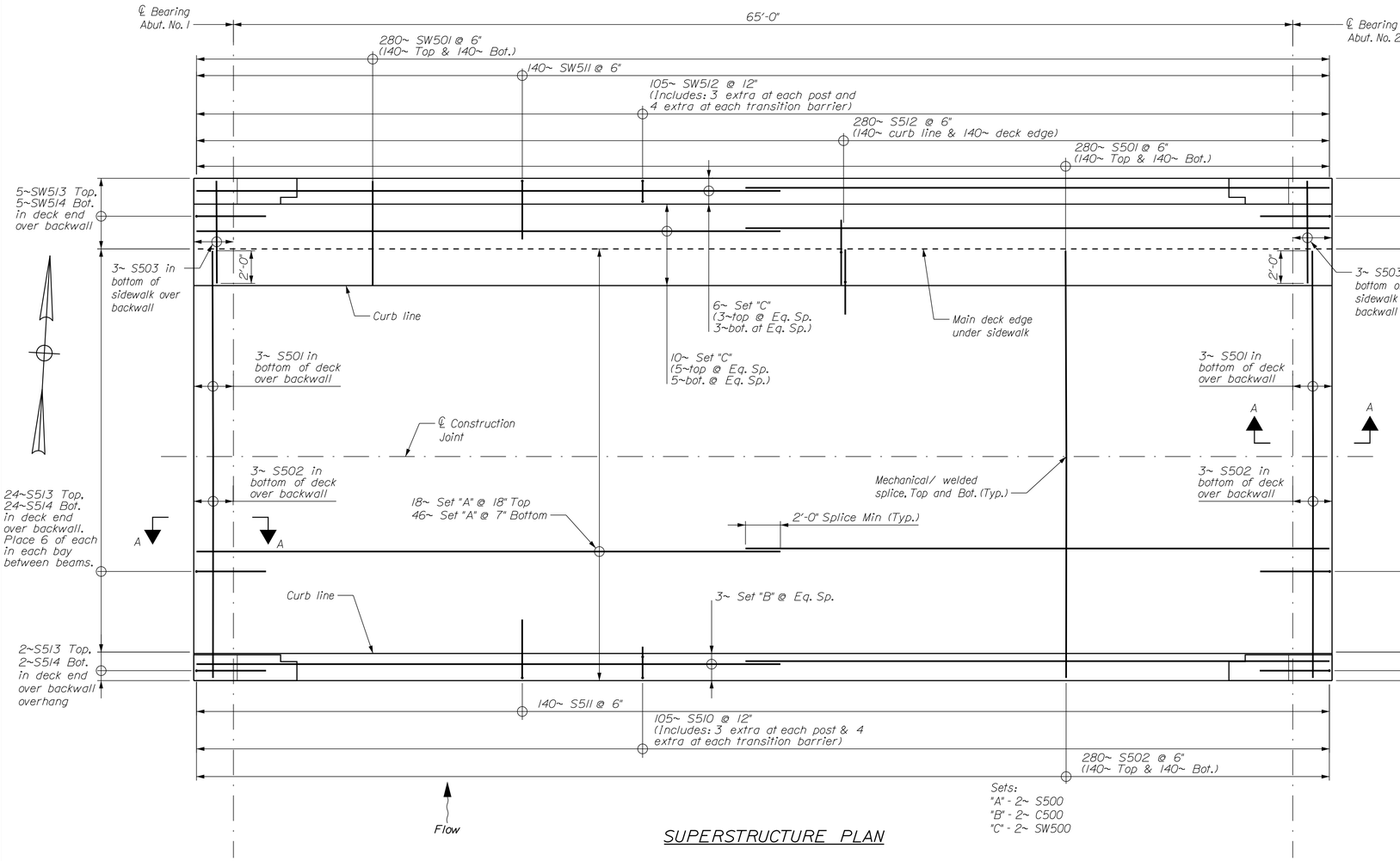
SHEAR CONNECTORS

SHEET NUMBER

9

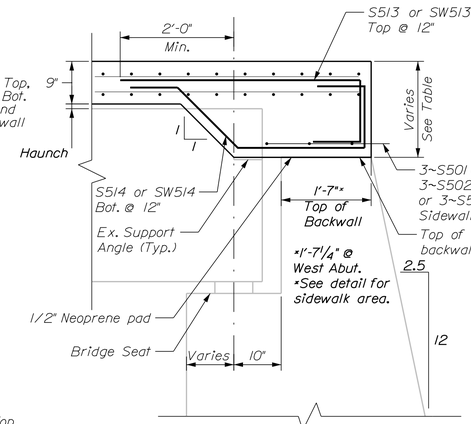
OF 14

Filename: ...\MSTA\009_Shear_Connectors.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

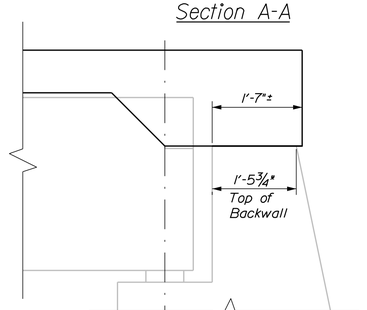


SUPERSTRUCTURE PLAN

Aprroximate Slab over Backwall Depths	
G1	1'-9½"
G2	1'-6"
G3	1'-7"
G4	1'-8"
G5	1'-7"
G6	1'-6"

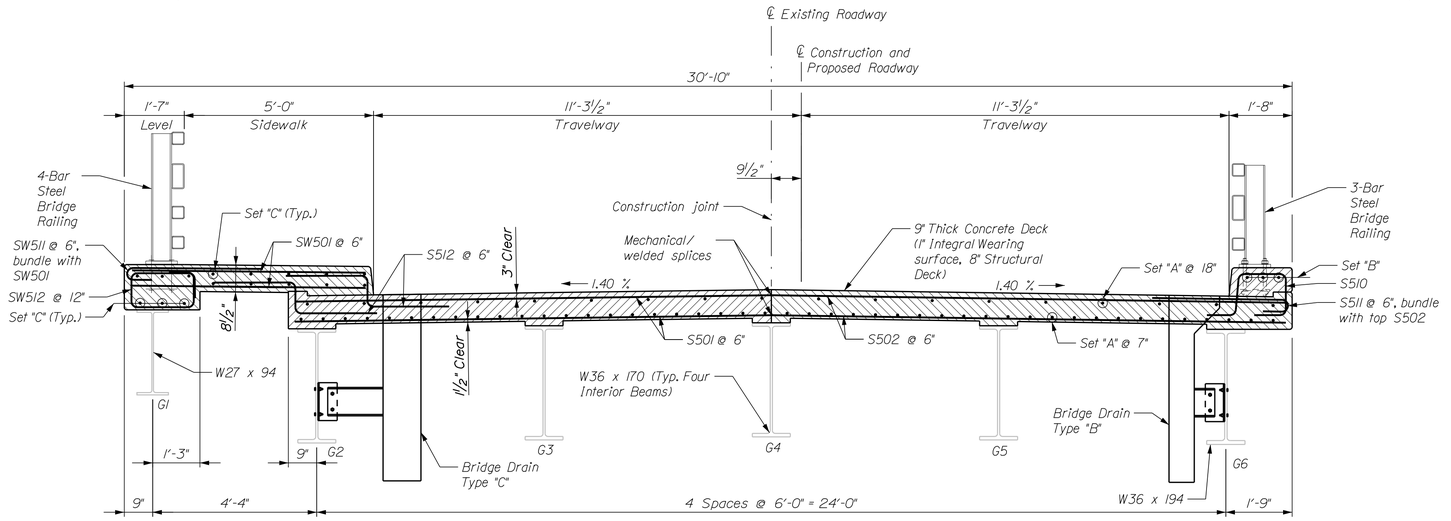


Section A-A



NOTE: Reinforcing not show. Similar to section through deck over Backwall

SECTION A-A DETAIL AT SIDEWALK



TYPICAL BRIDGE SECTION

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 1 inch for G2 thru G6 and 5.5" for G1 at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details. The blocking distance is measured from the top of the top flange.

2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.

3. Adjust reinforcing steel to fit around the bridge drains in a manner approved by the Resident. Do not cut transverse reinforcing bars.

4. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

5. The superstructure slab concrete shall be placed continuously and shall be kept plastic until the entire placement has been made.

6. Payment for reinforcing steel fabricated, delivered, and placed in the cast-in-place portion of the structural concrete slab, sidewalk and curb will be considered incidental to the appropriate Standard Specifications Section 502 pay item.

7. The Contractor shall install Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb or sidewalk concrete.

8. Partial-depth precast concrete deck panels are prohibited.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight		
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CHECKED-REVIEWED	P. Perkins	P. Lusitani	3/30/2018
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DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

DECK REINFORCING PLAN AND SECTION

SHEET NUMBER

10

OF 14

Filename: ...\BRIDGE\MSTA\010_Deck_Rebar.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.621	1.175	1.608	1.884	1.978	1.884	1.608	1.175	0.621	0.000
SDL	0.000	0.012	0.023	0.031	0.036	0.038	0.036	0.031	0.023	0.012	0.000
Total	0.000	0.633	1.198	1.639	1.920	2.016	1.920	1.639	1.198	0.633	0.000

DEFLECTION OF GIRDER 1 (inches)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.196	0.371	0.507	0.594	0.624	0.594	0.507	0.371	0.196	0.000
SDL	0.000	0.026	0.049	0.067	0.078	0.082	0.078	0.067	0.049	0.026	0.000
Total	0.000	0.222	0.420	0.574	0.672	0.706	0.672	0.574	0.420	0.222	0.000

DEFLECTION OF GIRDER 2 (inches)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.292	0.553	0.757	0.887	0.931	0.887	0.757	0.553	0.292	0.000
SDL	0.000	0.022	0.043	0.058	0.068	0.072	0.068	0.058	0.043	0.022	0.000
Total	0.000	0.314	0.596	0.815	0.955	1.003	0.955	0.815	0.596	0.314	0.000

DEFLECTION OF GIRDER 3 (inches)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.146	0.277	0.379	0.443	0.466	0.443	0.379	0.277	0.146	0.000
SDL	0.000	0.147	0.280	0.383	0.448	0.471	0.448	0.383	0.280	0.147	0.000
Total	0.000	0.293	0.557	0.762	0.891	0.937	0.891	0.762	0.557	0.293	0.000

DEFLECTION OF GIRDER 4 (inches)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.292	0.553	0.757	0.887	0.931	0.887	0.757	0.553	0.292	0.000
SDL	0.000	0.043	0.082	0.112	0.131	0.137	0.131	0.112	0.082	0.043	0.000
Total	0.000	0.335	0.635	0.869	1.018	1.068	1.018	0.869	0.635	0.335	0.000

DEFLECTION OF GIRDER 5 (inches)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Deck	0.000	0.203	0.385	0.527	0.617	0.648	0.617	0.527	0.385	0.203	0.000
SDL	0.000	0.042	0.079	0.108	0.126	0.132	0.126	0.108	0.079	0.042	0.000
Total	0.000	0.245	0.464	0.635	0.743	0.780	0.743	0.635	0.464	0.245	0.000

DEFLECTION OF GIRDER 6 (inches)

EL = EL @ top of Finished Deck - (Deck Thickness) - (Deflection due to Deck & SDL)

	Abut. 1	Span 1									Abut. 2
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
Girder 1	387.499	387.494	387.483	387.462	387.427	387.377	387.311	387.229	387.135	387.030	386.919
Girder 2	386.636	386.597	386.555	386.510	386.460	386.405	386.344	386.278	386.207	386.133	386.056
Girder 3	386.720	386.689	386.654	386.614	386.568	386.514	386.452	386.382	386.306	386.224	386.140
Girder 4	386.804	386.771	386.735	386.694	386.647	386.592	386.530	386.462	386.387	386.307	386.224
Girder 5	386.720	386.690	386.657	386.619	386.573	386.519	386.457	386.387	386.309	386.226	386.140
Girder 6	386.636	386.599	386.559	386.515	386.466	386.411	386.350	386.283	386.211	386.135	386.056

BLOCKING LOCATION & BOTTOM OF SLAB ELEVATIONS

	G1	G2	G3	G4	G5	G6
Abutment 1	5 ½"	1"	1"	1"	1"	1"
Abutment 2	5 ½"	1"	1"	1"	1"	1"

Blocking Distance Note:
The minimum blocking distance is based on a total existing deck and wearing surface thickness of 8.50". If the total existing deck and wearing surface is thicker than 8.50", the blocking distance will increase. The blocking distance at the abutments may be up to 3.50" for G2 through G6.

MINIMUM BLOCKING DISTANCES

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	Michael Wight	
DESIGN-DETAILED	P. Lusitani	C. Ohnsman 3/30/2018
CHECKED-REVIEWED	P. Perkins	P. Lusitani 3/30/2018
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

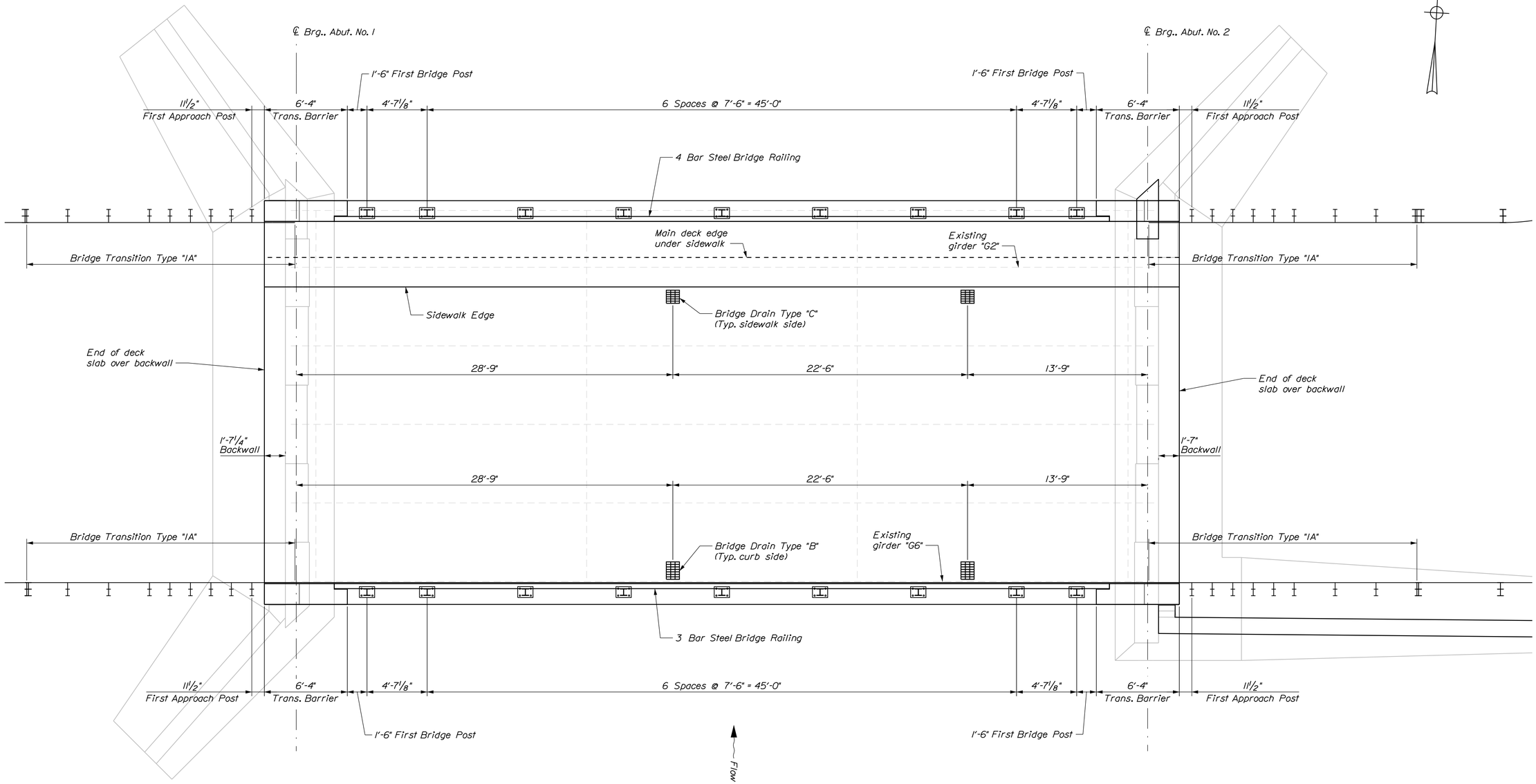
DEFLECTION AND BLOCKING TABLES

SHEET NUMBER

11

OF 14

Filename: ...\MSTA\011_Blocking_Tables.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018



BRIDGE RAIL & DRAIN LAYOUT PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

PROJ. MANAGER	Michael Wight		
DESIGN-DETAILED	P. Lusitani	BY	C. Ohnsman
CHECKED-REVIEWED	P. Perkins		P. Lusitani
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

	DATE
	3/30/2018
	3/30/2018

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

BRIDGE RAIL AND DRAIN LAYOUT PLAN

SHEET NUMBER

12

OF 14

Filename: ...\MSTA\012_Rail_Drain_Layout.dgn Division: HIGHWAY Username: 1151 Date:4/23/2018

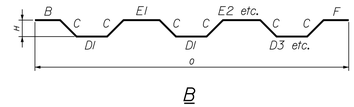
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
SUPERSTRUCTURE							
S500	128	36'-0"	Longitudinal deck bars				
S501	286	12'-7"	North transverse deck bars				
S502	286	13'-7"	South transverse deck bars				
S503	6	6'-2"	Transverse deck end bars				
SW500	32	36'-0"	Longitudinal Sidewalk Bars				
SW501	280	6'-2"	Transverse sidewalk bars				
C500	6	36'-0"	Longitudinal Curb Bars				
ABUTMENT NO. 2 (EAST ABUTMENT)							
B500	4	35'-7"	SE Wingwall bars				

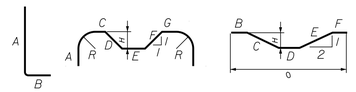
BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
SUPERSTRUCTURE														
S510	105	5'-1"	SC	0'-10"	1'-1"	1'-3"	1'-1"			0'-10"		1'-4"		Transverse curb, post and transition
S511	140	4'-2"	C	0'-0"	3'-7"	0'-7"								Transverse hooks
S512	280	4'-10"	T	2'-0"	0'-10"	2'-0"								Transverse sidewalk to deck
S513	52	6'-1"	SJ	0'-0"	0'-0"	0'-10"	1'-0"	4'-3"						Top deck end bars
S514	52	6'-1"	SJ	0'-10"	1'-4"	2'-1"	1'-0"	0'-10"						Bottom deck end bars
SW511	140	4'-2"	C	0'-0"	3'-7"	7"								Transverse hooks
SW512	105	5'-10"	HB	0'-6"	1'-8"	0'-9"	1'-8"	0'-9"		0'-6"				Trasnverse sidewalk hoops
SW513	10	6'-4"	SJ	0'-0"	0'-0"	0'-10"	1'-3"	4'-3"						Top deck end bars at sidewalk
SW514	10	6'-4"	SJ	0'-10"	1'-4"	2'-1"	1'-3"	0'-10"						Bottom deck end bars at sidewalk
ABUTMENT NO. 2 (EAST ABUTMENT)														
B501	73	3'-0"	C	0'-7"	2'-5"									SE wingwall hooks
B502	38	4'-2"	HB	0'-6"	0'-10"	0'-9"	0'-10"	0'-9"		0'-6"				SE wingwall hoops
B503	2	3'-2"	L	1'-2"	2'-0"									SE wingwall interior corner
B504	2	4'-0"	L	2'-0"	2'-0"									SE wingwall exterior corner

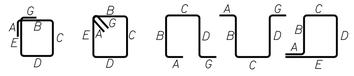
TYPE - BENDING DIAGRAMS



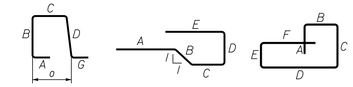
B



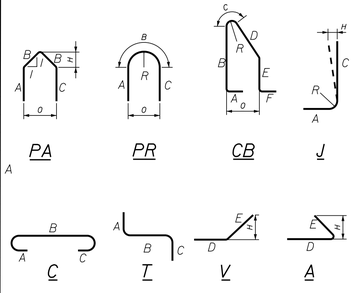
L W M



HB H S SL SB



SC SJ EP



PA PR CB J

C T V A

All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size ofthe bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021716.00

WIN 021716.00

BRIDGE NO. 5461

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	Michael Wight	
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DESIGN2-DETAILED2	P. Perkins	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN BRIDGE
BASKAHEGAN STREAM
DANFORTH WASHINGTON COUNTY

REINFORCING SCHEDULE

SHEET NUMBER

13

OF 14

Filename: ...\00\BRIDGE\MSTA\013_Rebar.dgn Username: 1151 Division: HIGHWAY Date:4/23/2018

Filename: ...\00\ROW\MSTA\001_RWPLAN1.dgn Username: Terri.L.Blair Division: ROW Date:4/24/2018

PLAN LEGEND

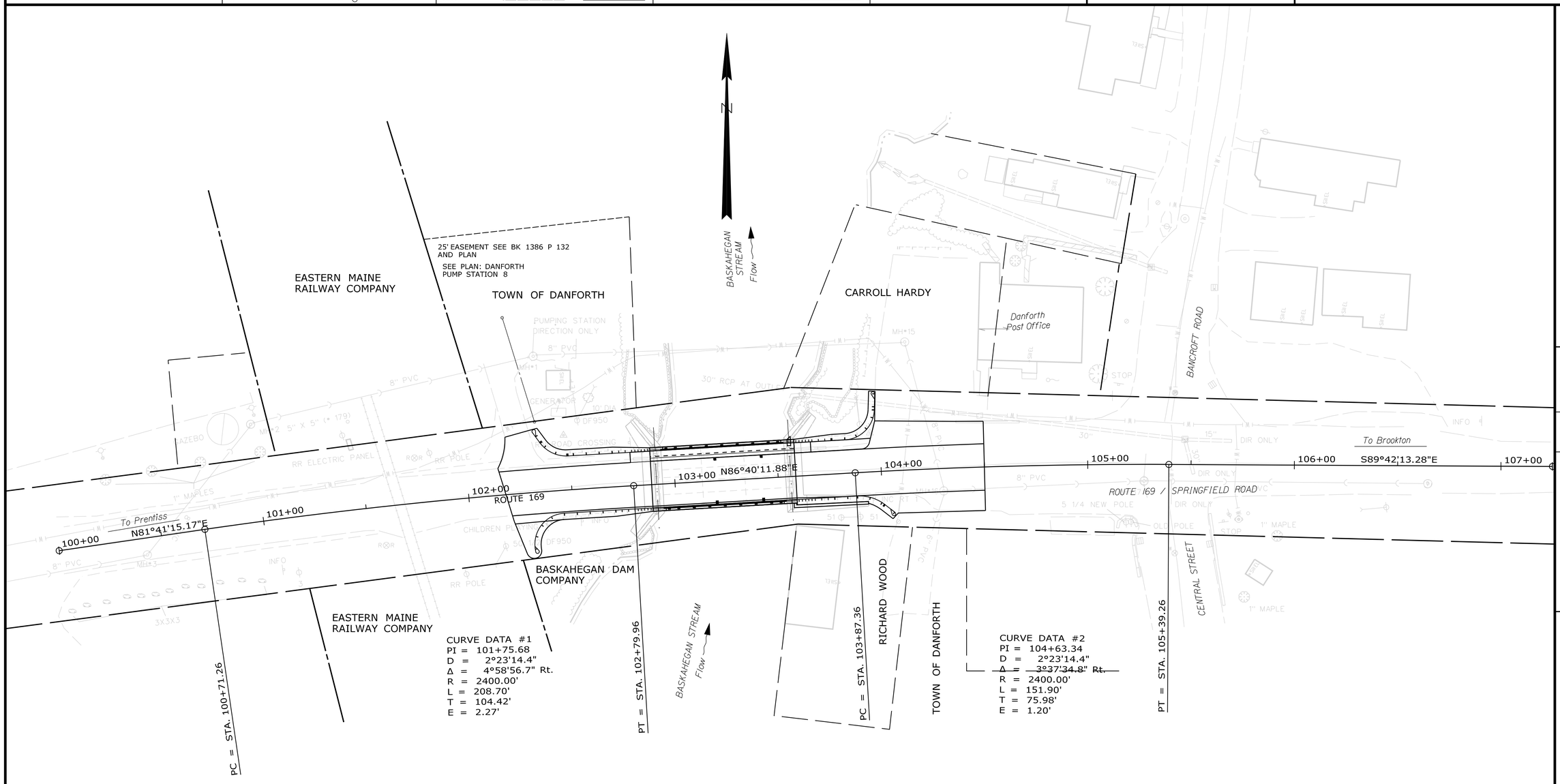
Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Existing / Proposed	Traveled Way	Existing / Proposed	Cut Line	Fill Line
Approx. Property Lines P.L.	Building / Clearing Limit Line CLL	Telephone Line		Ditch		Stonewall	Retaining Wall
Existing Right of Way	Trees Conifer / Deciduous	Electric Line		Catch Basin		Baseline 10+00 11+00 12+00	
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line		Manhole		Monument	Traverse Point
Control Of Access C.O.A.	Water Edge	Underdrain Line		Sewer Manhole		Iron Rod Found IRF	Pipe Found IPF
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line		Utility Pole		Replacement Pin Set	
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail		Fire Hydrant			
New Temporary Rights	Sign / Well WELL / Mailbox	Culvert		Curbing			
New R/W Within Existing R/W							

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and recorded in
Plan Book _____, Page _____
Attest: _____
REGISTER

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet



TOWN BRIDGE
OVER
BASKAHEGAN STREAM

BRIDGE NO.5461 WIN 021716.00

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	T.L.B.	
FINAL RIGHT OF WAY		
AREAS		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
DANFORTH
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

DAVID BERNHARDT
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE AID HIGHWAY NO. 3
ROUTE 169
DANFORTH WASHINGTON COUNTY
FEDERAL AID PROJECT NO. STP-2171(600)

APRIL 2018	RIGHT-OF-WAY MAP	
SCALE 1" = 25'	SHEET 1 OF 1	

SHEET NUMBER
14
OF 14