TOWN OF ASHLAND
NEW HAMPSHIRE

TRANSPORTATION ALTERNATIVES PROGRAM PROJECT

MAIN STREET (US ROUTE 3 AND NH ROUTE 25) AND GORDON STREET

STATE PROJECT NUMBER 41370

FEDERAL AID NUMBER X-A004(610)

SHEET NO.	SHEET TITLE
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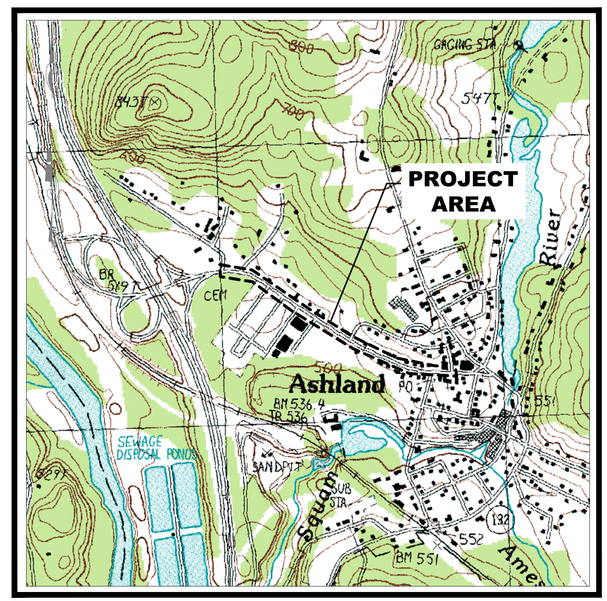
	NHDOT STANDARD DETAILS (11 SHEETS)



Locus Map
Not to Scale

KVPartners LLC
P.O. Box 432
New Boston, NH 03070
(603) 413-6650

APRIL 2020

GENERAL NOTES

1. BASE MAP INFORMATION IS PROVIDED BY PROMISED LAND SURVEY OF DERRY, NH. SURVEY WAS COMPLETED IN MARCH/APRIL 2018.
2. ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM.
3. THE CONTRACTOR SHALL VERIFY ALL RELEVANT ANGLES, LENGTHS, ELEVATIONS, AND INVERTS PRIOR TO CONSTRUCTION.
4. THE LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE UTILITY AUTHORITY OF ANY DISCREPANCY WITH THE DRAWINGS. NEITHER THE ENGINEER NOR THE OWNER WARRANTS OR GUARANTEES THE CONDITIONS SHOWN ON THE DRAWINGS.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SUBSURFACE STRUCTURES AND UTILITIES THROUGH THE APPROPRIATE AGENCY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL CALL THE DIG-SAFE CENTER (1-888-344-7233) AT LEAST 72 BUSINESS HOURS PRIOR TO ANY EXCAVATION.
6. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITY WITH THE VARIOUS AFFECTED UTILITY AUTHORITIES TO PREVENT UNNECESSARY DELAY OF WORK OR INTERRUPTION OF SERVICES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND SUPPORTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING SUCH ACTIVITY WITH THE APPROPRIATE UTILITY AUTHORITY. UTILITIES DESTROYED OR DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE UTILITY AUTHORITY AT NO ADDITIONAL COST TO THE OWNER.
8. THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AS REQUIRED BY THE NHDOT. IT IS UNDERSTOOD THAT NO ROADWAYS WILL BE CLOSED AND NO DETOURS WILL BE PERMITTED TO ACCOMMODATE CONSTRUCTION AND THE CONTRACTOR SHALL PLAN THE CONSTRUCTION ACTIVITIES ACCORDINGLY.
9. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ACCESS TO ALL ABUTTING PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE OWNER.
10. THE CONTRACTOR SHALL CONFINE ALL OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES TO THE TOWN'S RIGHT-OF-WAY OR IN STAGING/STOCKPILE AREAS APPROVED BY THE TOWN. THE CONTRACTOR SHALL LOCATE STAGING AREAS THROUGH AGREEMENTS WITH AFFECTED PROPERTY OWNERS, OR PROVIDE ALTERNATE MEANS TO STORE MATERIAL AT THE WORK AREA AS REQUIRED.
11. DURING NON-WORKING HOURS, THE CONTRACTOR SHALL SECURE ALL EQUIPMENT AND MATERIALS WITHIN THE LIMITS OF WORK.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAYS, SIGNS, CURBS, SIDEWALKS, DRIVEWAYS, MAILBOXES, FENCES, PLANTINGS OR OTHER PHYSICAL FEATURES CAUSED BY THE CONTRACTOR'S ACTIVITIES AND SHALL REPAIR THEM AT NO ADDITIONAL COST TO THE OWNER. ALL AREAS BEYOND THE LIMITS OF CONSTRUCTION WHICH ARE DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
13. THE CONTRACTOR SHALL TAKE PRECAUTIONS DURING CONSTRUCTION TO MINIMIZE THE AMOUNT OF DEBRIS THAT COLLECTS IN CATCH BASINS, CULVERTS AND MANHOLES. THE CONTRACTOR SHALL CLEAN ALL CATCH BASINS, CULVERTS AND MANHOLES AFFECTED BY CONSTRUCTION IN ORDER TO MAINTAIN AN OPERATING SYSTEM.
14. ALL EXISTING CURB, SIGNS, DRAINAGE STRUCTURES, UTILITIES AND ANY OTHER MATERIALS WITHIN THE RIGHT OF WAY THAT ARE REMOVED BY THE CONTRACTOR MAY BE INSPECTED BY THE OWNER. THE OWNER RESERVES THE RIGHT TO RETAIN OWNERSHIP AND MAY DIRECT THE CONTRACTOR TO SALVAGE AND STOCKPILE ANY SUCH EXISTING MATERIALS AT NO ADDITIONAL COST TO THE OWNER. ANY EXISTING MATERIALS THE OWNER CHOOSES NOT TO SALVAGE AND STOCKPILE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
15. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FROM APPLICABLE GOVERNMENTAL AGENCIES, INCLUDING THE OWNER, PRIOR TO THE START OF ANY CONSTRUCTION.
16. THE CONTRACTOR IS REQUIRED TO PROVIDE ADEQUATE SHORING FOR THE SOIL CONDITIONS AND DEPTHS ENCOUNTERED DURING CONSTRUCTION.
17. IN THE EVENT THE CONTRACTOR ENCOUNTERS EXISTING MATERIAL REASONABLY BELIEVED TO BE HAZARDOUS WHICH HAS NOT BEEN RENDERED HARMLESS, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND REPORT THE CONDITION TO THE OWNER AND ENGINEER. WORK IN THE AFFECTED AREA SHALL NOT RESUME UNTIL WRITTEN VERIFICATION BY THE OWNER THAT THE MATERIAL HAS BEEN REMOVED OR OTHERWISE BEEN RENDERED HARMLESS.
18. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE CONTRACT DOCUMENTS. ALL DRAWINGS OF ANY PARTICULAR TRADE SHALL BE USED IN CONJUNCTION WITH DRAWINGS OF ALL OTHER TRADES TO COORDINATE THE CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY PROPOSED CHANGES, VARIATIONS, OR SUBSTITUTIONS MUST BE REVIEWED AND ACCEPTED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
19. ALL PROPOSED WORK WILL BE COMPLETED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS AND DETAILS (LATEST VERSION AND ALL AMENDMENTS) UNLESS OTHERWISE NOTED ON THESE PLANS OR SPECIFIED IN THE CONTRACT DOCUMENTS.
20. ALL CATCH BASIN GRATES AND FRAMES SHALL BE TYPE "B" IN ACCORDANCE WITH NHDOT STANDARD DR-1.
21. IMPLEMENT THE FOLLOWING MEASURES AS A MINIMUM PRIOR TO THE WINTER SUSPENSION OF WORK:
    a. MAINTAIN TRAFFIC ON NEW PAVEMENT WITH APPROPRIATE PAVEMENT MARKINGS FOR THE WINTER.
    b. PAVE ALL DRIVES THAT HAVE HAD PAVEMENT REMOVED DURING CONSTRUCTION.
    c. STABILIZE AND/OR VEGETATE ALL DISTURBED SLOPES.
    d. REMOVE TEMPORARY TRAFFIC CONTROL BARRIERS THAT HINDER WINTER MAINTENANCE.
    e. PRIOR TO WINTER MAINTENANCE SEASON (BEGINNING NOVEMBER 1), ARRANGE A REVIEW OF THIS PROJECT WITH THE TOWN TO ENSURE THE ROADWAY IS ACCEPTABLE FOR WINTER MAINTENANCE.
22. A PRE CONSTRUCTION MEETING INCLUDING NHDOT (OFC AND COMMUNITY ASSISTANCE), NHDOT DISTRICT 5, UTILITIES, CONTRACTOR, CONSULTANTS, AND THE TOWN WILL BE HELD PRIOR TO ANY CONSTRUCTION IN ACCORDANCE WITH THE LPA MANUAL.

LEGEND

GENERAL SYMBOLS

EXISTING

- BOUND
- BOLLARD
- CATCH BASIN
- CLEAN OUT
- DELINEATOR
- ELECTRIC METER
- GUYWIRE
- HYDRANT-FIRE
- IRON PIPE/REBAR
- IRRIGATION
- LIGHT
- LIGHT POST
- MAILBOX/PAPER BOX
- PLANTER
- POST
- ROCK
- SEWER MANHOLE
- SHRUB
- SIGN
- STUMP
- TREE - CONIFEROUS
- TREE - DECIDIOUS
- UTILITY POLE
- WATER SHUTOFF

- CONTOUR MAJOR
- CONTOUR MINOR
- CURBING
- DRAINAGE LINE
- EDGE OF PAVEMENT
- RETAINING WALL
- SEWER LINE
- BRICK
- BUILDING
- CONCRETE
- CRUSHED STONE
- LANDSCAPING

PROPOSED

- CATCH BASIN (OR GUTTER INLET)
- CURB (OR BERM) - TYPE NOTED
- DRAIN PIPE
- HYDRANT
- STREET LIGHT
- UTILITY POLE
- MAIL BOX
- HIGHWAY GUARD (TYPE NOTED)
- TREE (SIZE AND TYPE NOTED)
- FENCE (SIZE AND TYPE NOTED)
- TEMPORARY EASEMENT
- LIMIT OF REGRADING

PAVEMENT MARKINGS AND SIGNING SYMBOLS

EXISTING	PROPOSED	
		DIRECTION OF FLOW
	ONLY	PAVEMENT ARROW AND LEGEND
	SL	STOP LINE - 18" WHITE LINE 4' BEHIND CW (TYP.)
		SIGN AND POST
	SSWL	SINGLE SOLID WHITE LINE - 4"
	SSYL	SINGLE SOLID YELLOW LINE - 4"
	BYCL	BROKEN YELLOW CENTERLINE - 4"
	DSL	DOUBLE YELLOW LINE - 2-4" LINES

ABBREVIATIONS

ABAN.	ABANDON
ADJ.	ADJUST
EXIST.	EXISTING
PROP.	PROPOSED
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
R.C.P.	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
CB	CATCH BASIN
MH	MANHOLE
WG	WATER GATE
GG	GAS GATE
BIT.	BITUMINOUS
CEM.	CEMENT
PVMT.	PAVEMENT
CONC.	CONCRETE
GRAN.	GRANITE
INV.	INVERT
EL.	ELEVATION
DWY.	DRIVEWAY
SDWK.	SIDEWALK

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE - MICHAEL A. WHALE - No. 13064 - LICENSED - PROFESSIONAL ENGINEER

4-17-2020

KVPartners LLC
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New Boston, NH 03070
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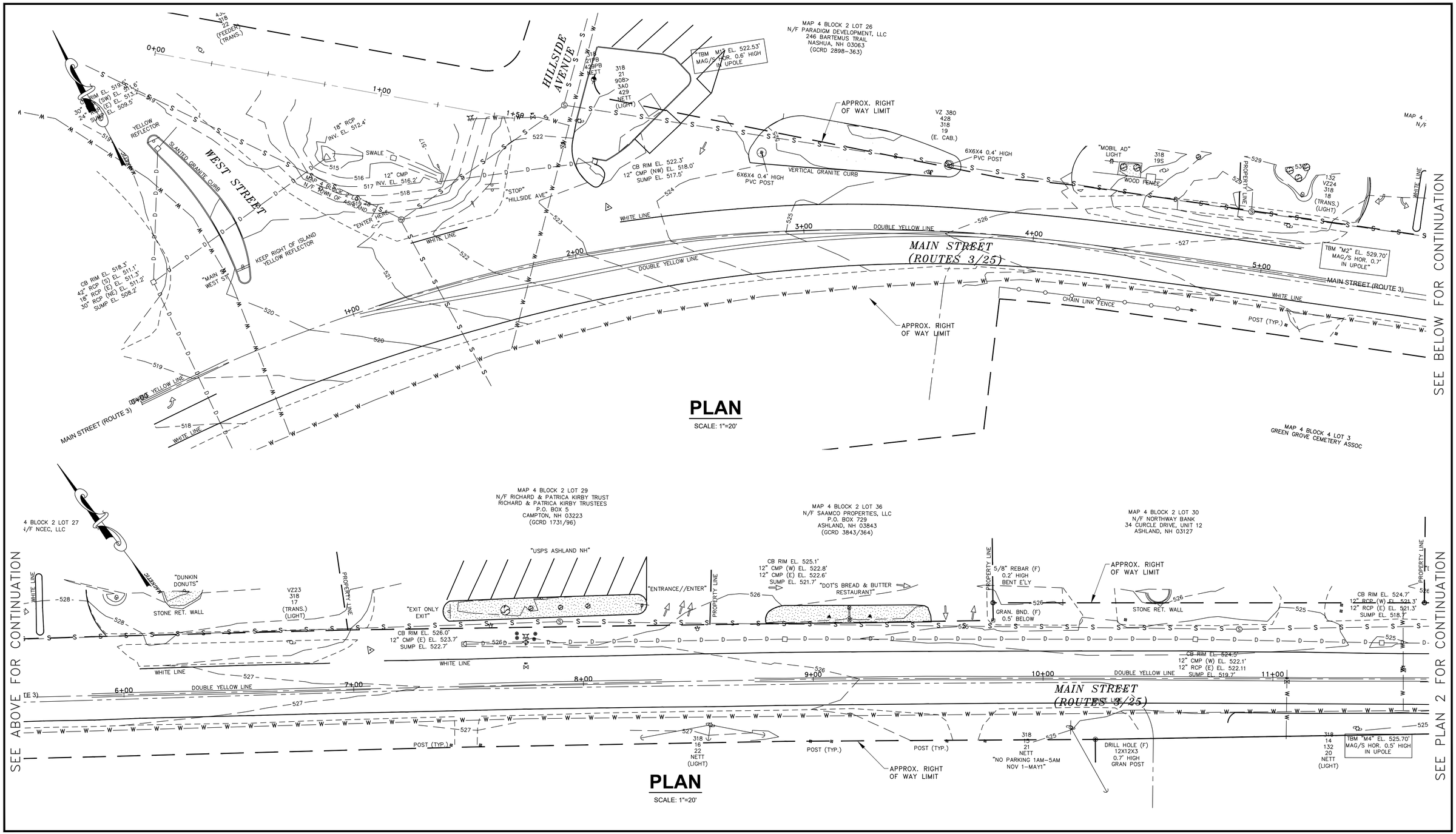
NO SCALE

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

GENERAL NOTES AND LEGEND

SHEET NO. 2

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL K. MANALE
No. 10969
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4-17-2020

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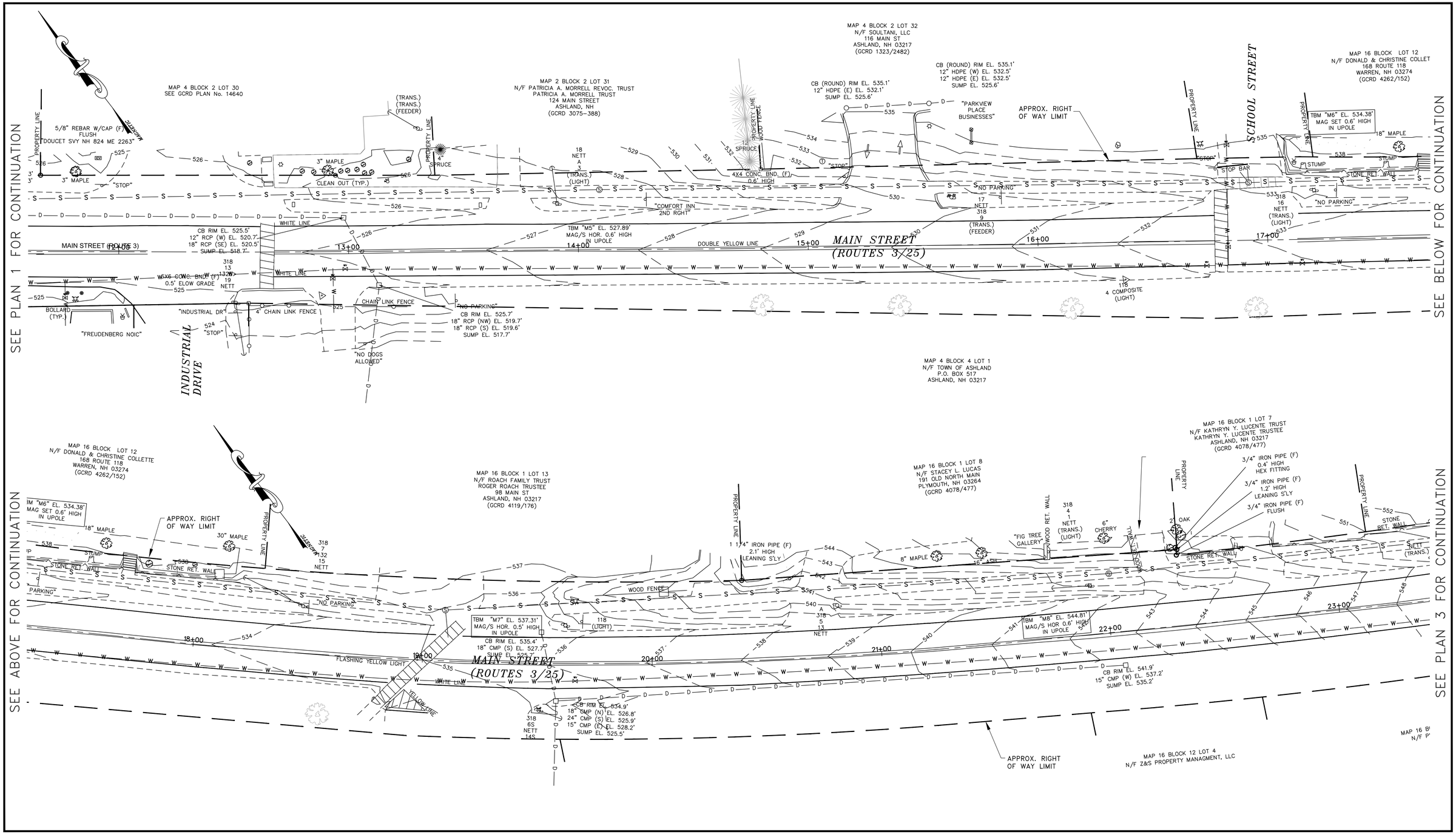
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN - 1

SHEET NO.
3

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
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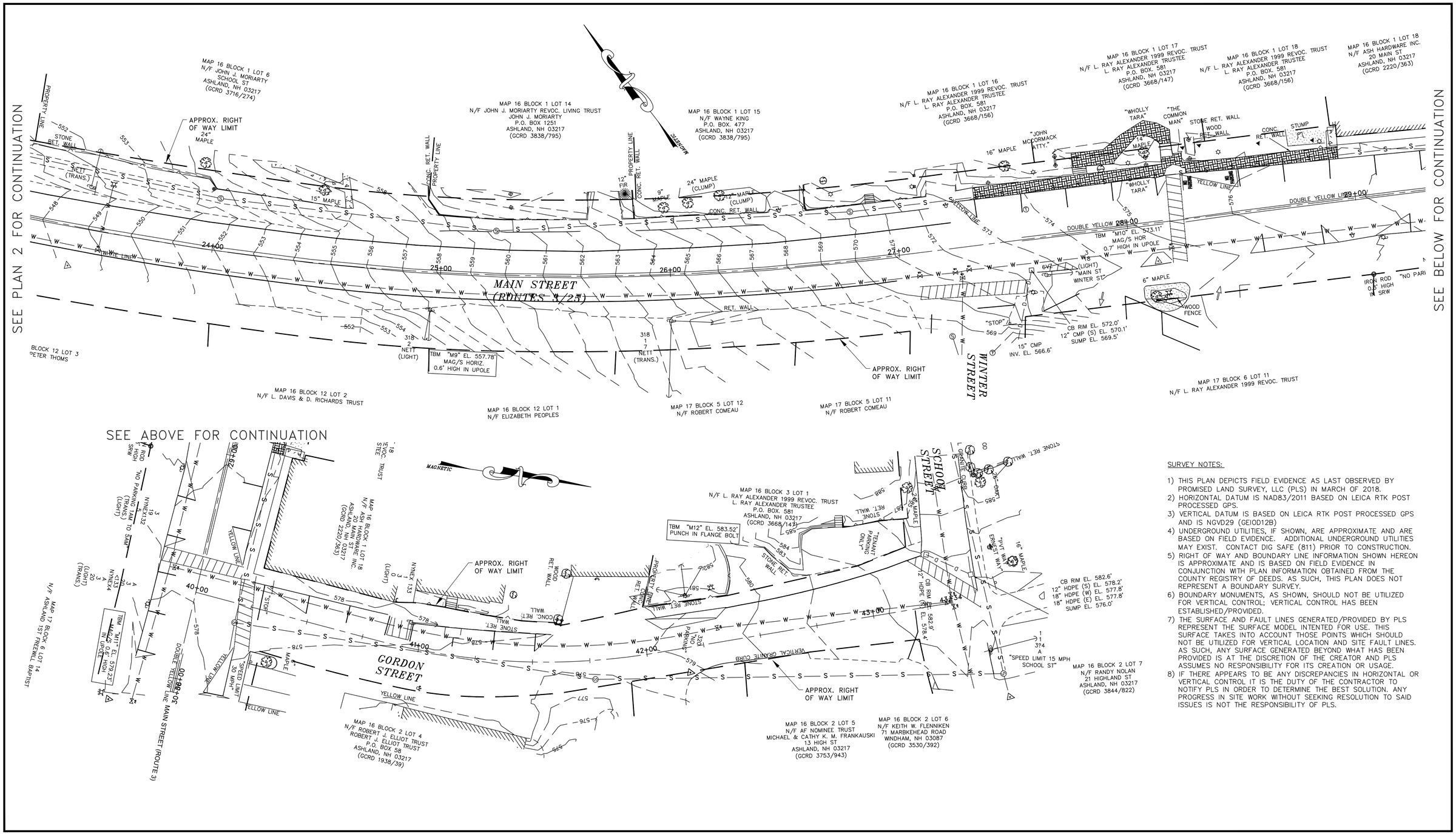
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN - 2

SHEET NO.
4

APRIL 2020



SURVEY NOTES:

1) THIS PLAN DEPICTS FIELD EVIDENCE AS LAST OBSERVED BY PROMISED LAND SURVEY, LLC (PLS) IN MARCH OF 2018.
2) HORIZONTAL DATUM IS NAD83/2011 BASED ON LEICA RTK POST PROCESSED GPS.
3) VERTICAL DATUM IS BASED ON LEICA RTK POST PROCESSED GPS AND IS NGVD29 (GEIOD12B)
4) UNDERGROUND UTILITIES, IF SHOWN, ARE APPROXIMATE AND ARE BASED ON FIELD EVIDENCE. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. CONTACT DIG SAFE (811) PRIOR TO CONSTRUCTION.
5) RIGHT OF WAY AND BOUNDARY LINE INFORMATION SHOWN HEREON IS APPROXIMATE AND IS BASED ON FIELD EVIDENCE IN CONJUNCTION WITH PLAN INFORMATION OBTAINED FROM THE COUNTY REGISTRY OF DEEDS. AS SUCH, THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY.
6) BOUNDARY MONUMENTS, AS SHOWN, SHOULD NOT BE UTILIZED FOR VERTICAL CONTROL; VERTICAL CONTROL HAS BEEN ESTABLISHED/PROVIDED.
7) THE SURFACE AND FAULT LINES GENERATED/PROVIDED BY PLS REPRESENT THE SURFACE MODEL INTENTED FOR USE. THIS SURFACE TAKES INTO ACCOUNT THOSE POINTS WHICH SHOULD NOT BE UTILIZED FOR VERTICAL LOCATION AND SITE FAULT LINES. AS SUCH, ANY SURFACE GENERATED BEYOND WHAT HAS BEEN PROVIDED IS AT THE DISCRETION OF THE CREATOR AND PLS ASSUMES NO RESPONSIBILITY FOR ITS CREATION OR USAGE.
8) IF THERE APPEARS TO BE ANY DISCREPANCIES IN HORIZONTAL OR VERTICAL CONTROL IT IS THE DUTY OF THE CONTRACTOR TO NOTIFY PLS IN ORDER TO DETERMINE THE BEST SOLUTION. ANY PROGRESS IN SITE WORK WITHOUT SEEKING RESOLUTION TO SAID ISSUES IS NOT THE RESPONSIBILITY OF PLS.

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL A. MISHALE
NO. 13963
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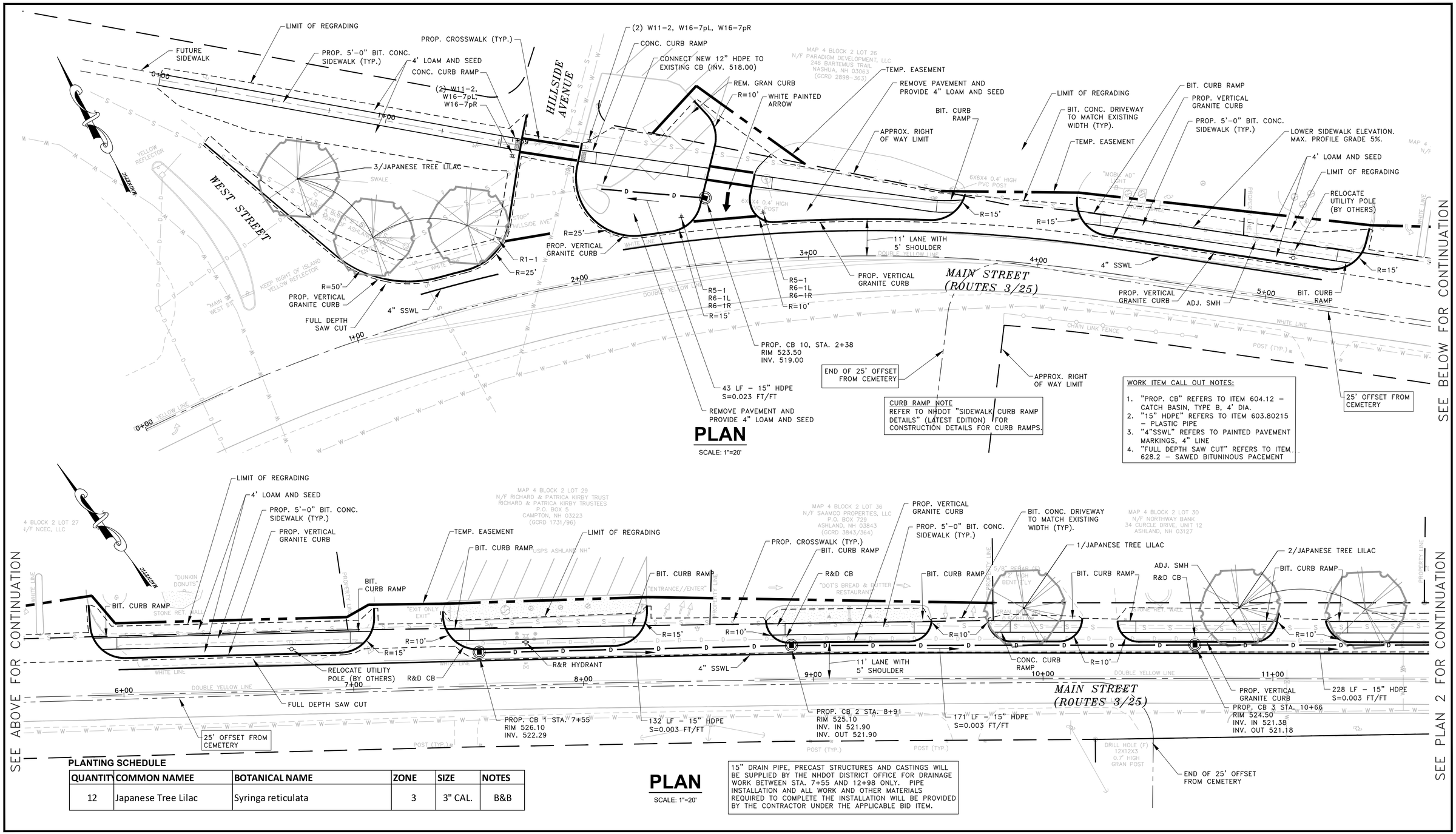
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN – 3

SHEET NO.
5

APRIL 2020



CURB RAMP NOTE
REFER TO NHDOT "SIDEWALK/ CURB RAMP DETAILS" (LATEST EDITION) FOR CONSTRUCTION DETAILS FOR CURB RAMPS.

WORK ITEM CALL OUT NOTES:

1. "PROP. CB" REFERS TO ITEM 604.12 – CATCH BASIN, TYPE B, 4' DIA.
2. "15" HDPE" REFERS TO ITEM 603.80215 – PLASTIC PIPE
3. "4"SSWL" REFERS TO PAINTED PAVEMENT MARKINGS, 4" LINE
4. "FULL DEPTH SAW CUT" REFERS TO ITEM 628.2 – SAWED BITUNINOUS PACEMENT

PLAN

SCALE: 1"=20'

PLANTING SCHEDULE

QUANTITY	COMMON NAMEE	BOTANICAL NAME	ZONE	SIZE	NOTES
12	Japanese Tree Lilac	Syringa reticulata	3	3" CAL.	B&B

PLAN

SCALE: 1"=20'

15" DRAIN PIPE, PRECAST STRUCTURES AND CASTINGS WILL BE SUPPLIED BY THE NHDOT DISTRICT OFFICE FOR DRAINAGE WORK BETWEEN STA. 7+55 AND 12+98 ONLY. PIPE INSTALLATION AND ALL WORK AND OTHER MATERIALS REQUIRED TO COMPLETE THE INSTALLATION WILL BE PROVIDED BY THE CONTRACTOR UNDER THE APPLICABLE BID ITEM.

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE MICHAEL P. AVANILE No. 10868 LICENSED PROFESSIONAL ENGINEER
4-17-2020

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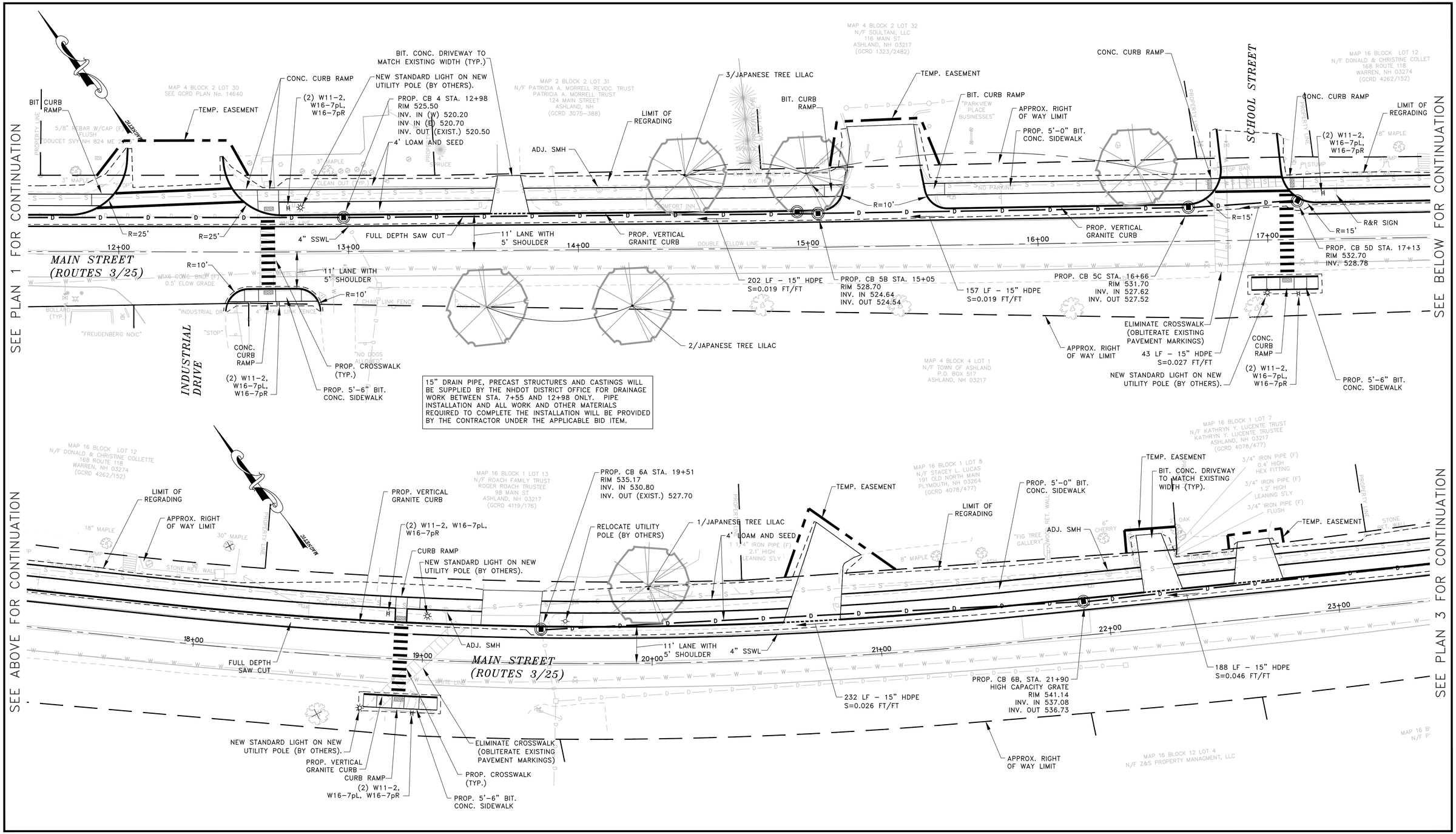
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CONSTRUCTION PLAN – 1

SHEET NO. 6

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL A. WENALE
No. 10964
LICENSED
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4-17-2020

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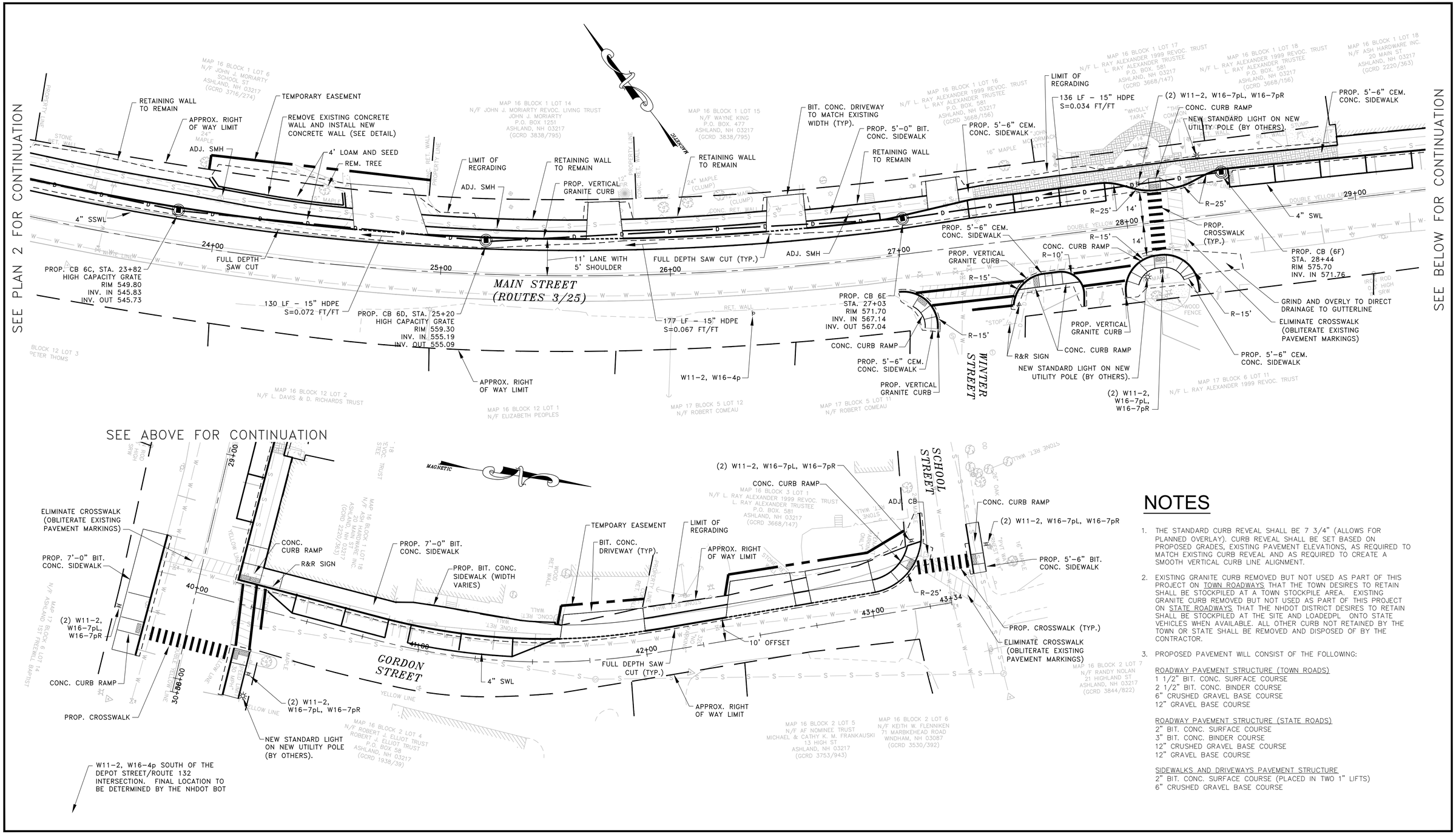
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CONSTRUCTION PLAN - 2

SHEET NO. 7

APRIL 2020



NOTES

1. THE STANDARD CURB REVEAL SHALL BE 7 3/4" (ALLOWS FOR PLANNED OVERLAY). CURB REVEAL SHALL BE SET BASED ON PROPOSED GRADES, EXISTING PAVEMENT ELEVATIONS, AS REQUIRED TO MATCH EXISTING CURB REVEAL AND AS REQUIRED TO CREATE A SMOOTH VERTICAL CURB LINE ALIGNMENT.
2. EXISTING GRANITE CURB REMOVED BUT NOT USED AS PART OF THIS PROJECT ON TOWN ROADWAYS THAT THE TOWN DESIRES TO RETAIN SHALL BE STOCKPILED AT A TOWN STOCKPILE AREA. EXISTING GRANITE CURB REMOVED BUT NOT USED AS PART OF THIS PROJECT ON STATE ROADWAYS THAT THE NHDOT DISTRICT DESIRES TO RETAIN SHALL BE STOCKPILED AT THE SITE AND LOADEDPL ONTO STATE VEHICLES WHEN AVAILABLE. ALL OTHER CURB NOT RETAINED BY THE TOWN OR STATE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
3. PROPOSED PAVEMENT WILL CONSIST OF THE FOLLOWING:

ROADWAY PAVEMENT STRUCTURE (TOWN ROADS)
1 1/2" BIT. CONC. SURFACE COURSE
2 1/2" BIT. CONC. BINDER COURSE
6" CRUSHED GRAVEL BASE COURSE
12" GRAVEL BASE COURSE

ROADWAY PAVEMENT STRUCTURE (STATE ROADS)
2" BIT. CONC. SURFACE COURSE
3" BIT. CONC. BINDER COURSE
12" CRUSHED GRAVEL BASE COURSE
12" GRAVEL BASE COURSE

SIDEWALKS AND DRIVEWAYS PAVEMENT STRUCTURE
2" BIT. CONC. SURFACE COURSE (PLACED IN TWO 1" LIFTS)
6" CRUSHED GRAVEL BASE COURSE

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE — MICHAEL A. MIGNALE — No. 13944 — LICENSED PROFESSIONAL ENGINEER
4-17-2020

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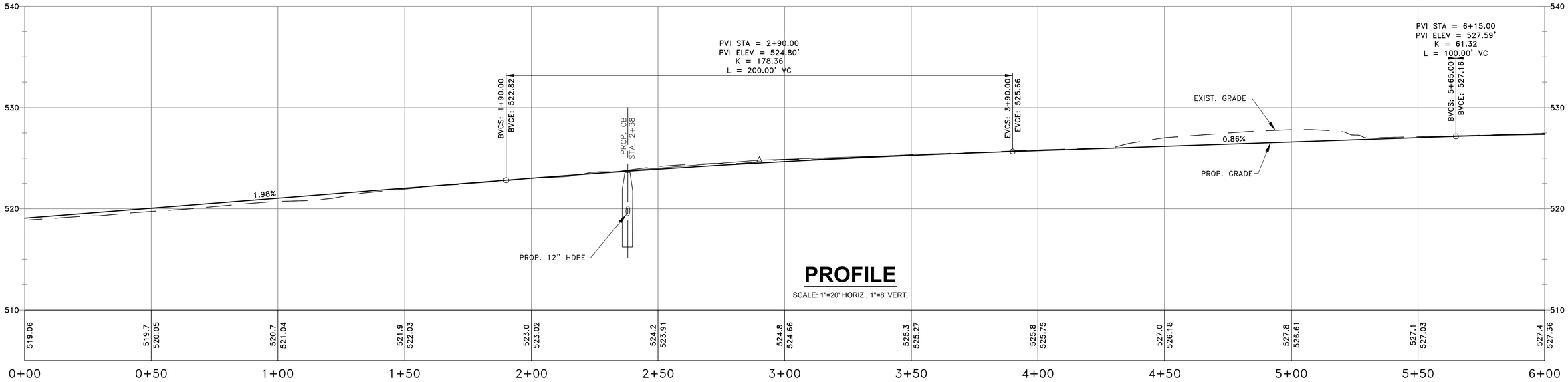
20 0 20 40
SCALE 1" = 20'

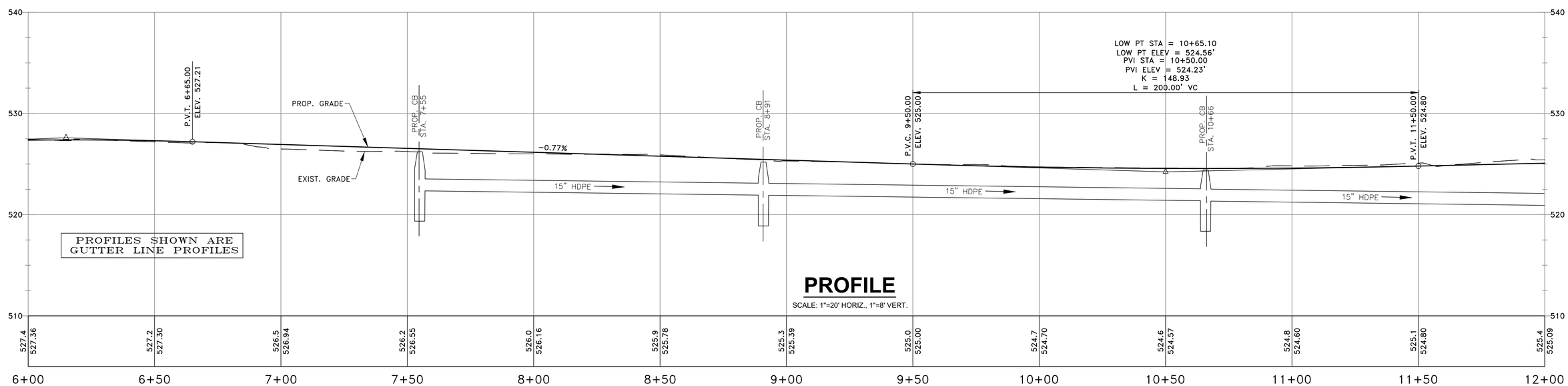
TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CONSTRUCTION PLAN – 3

SHEET NO. 8

APRIL 2020





REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
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4-17-2020

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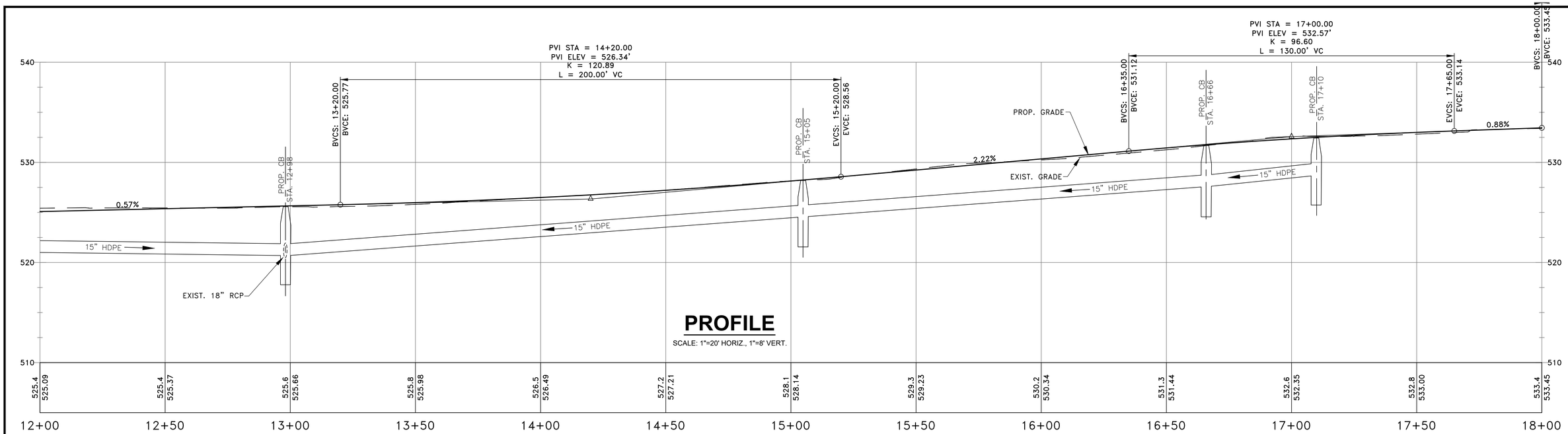
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES
PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

PROFILE – 1

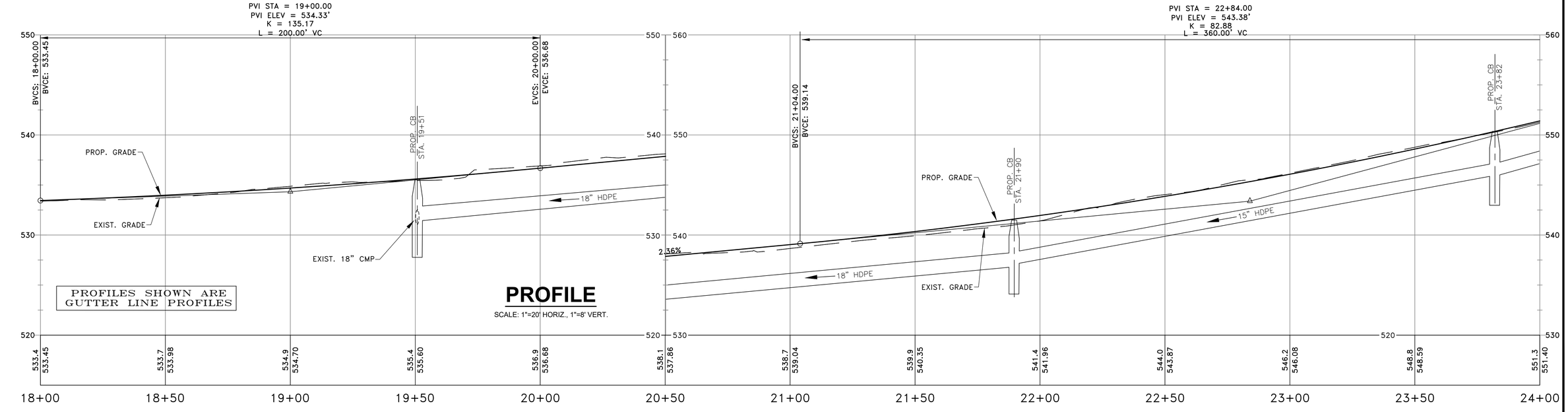
SHEET NO.
9

APRIL 2020



PROFILE

SCALE: 1"=20' HORIZ., 1"=8' VERT.



PROFILES SHOWN ARE GUTTER LINE PROFILES

PROFILE

SCALE: 1"=20' HORIZ., 1"=8' VERT.

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE — MICHAEL R. VIGNALE — No. 10969 — LICENSED PROFESSIONAL ENGINEER
4-17-2020

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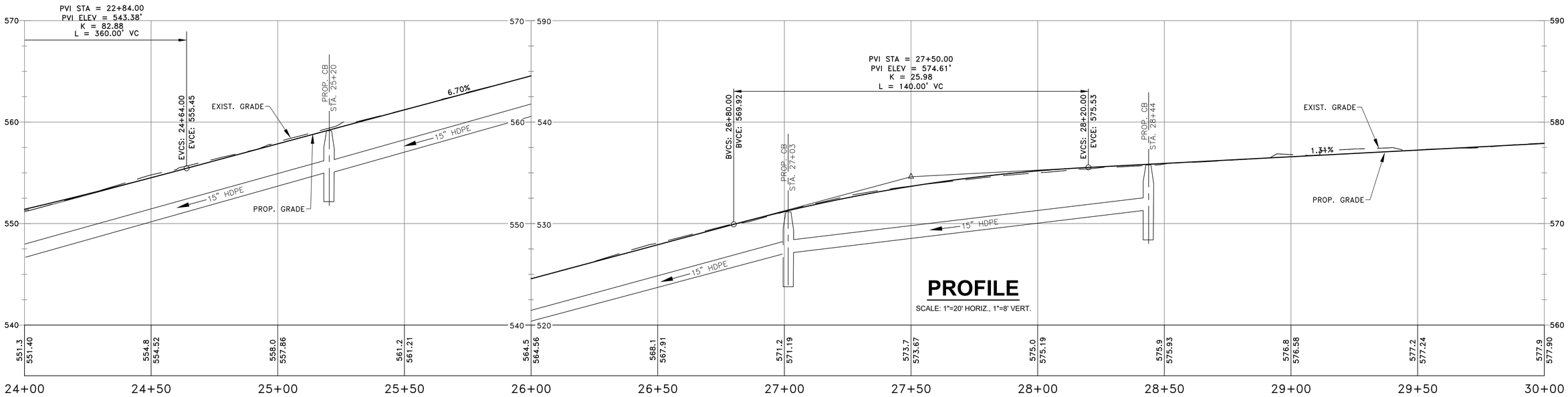
20 0 20 40
SCALE 1" = 20'

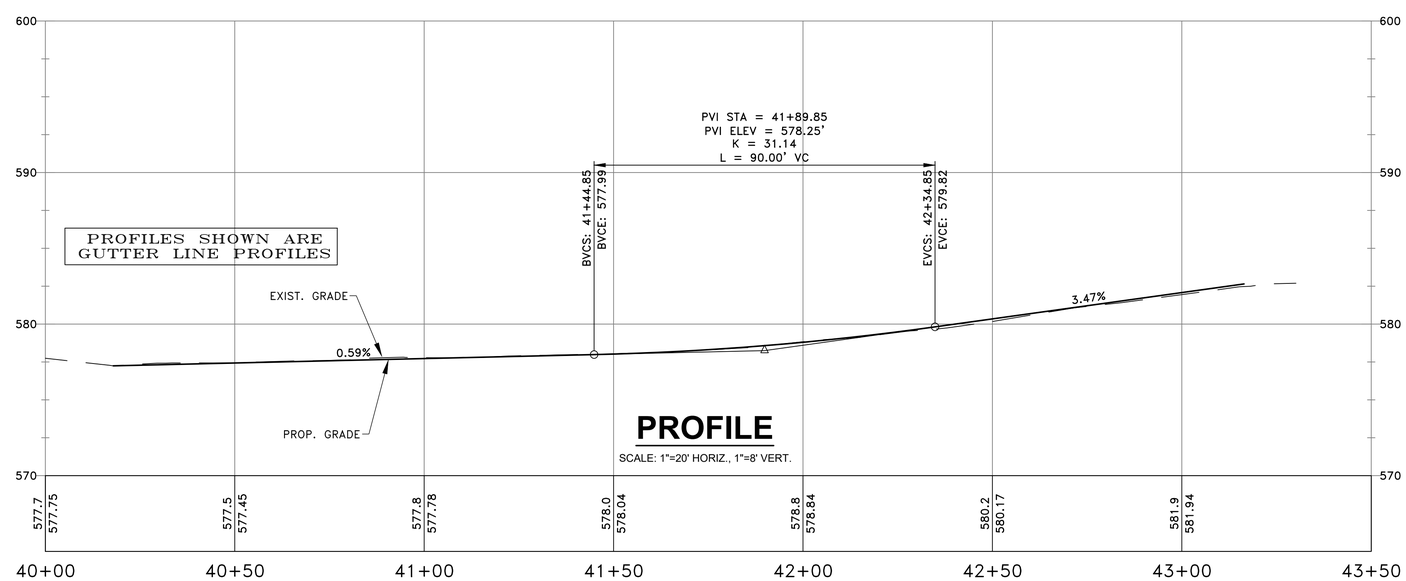
TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

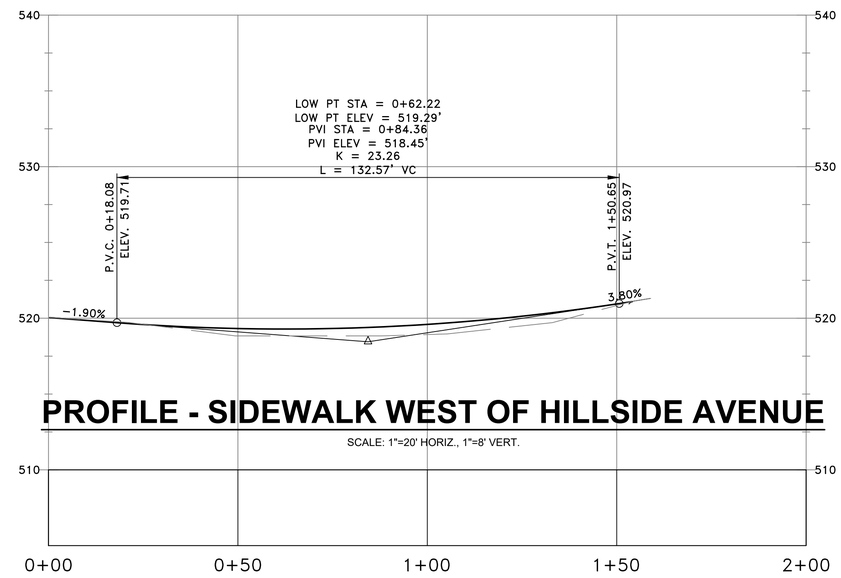
PROFILE – 2

SHEET NO.
10

APRIL 2020







REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
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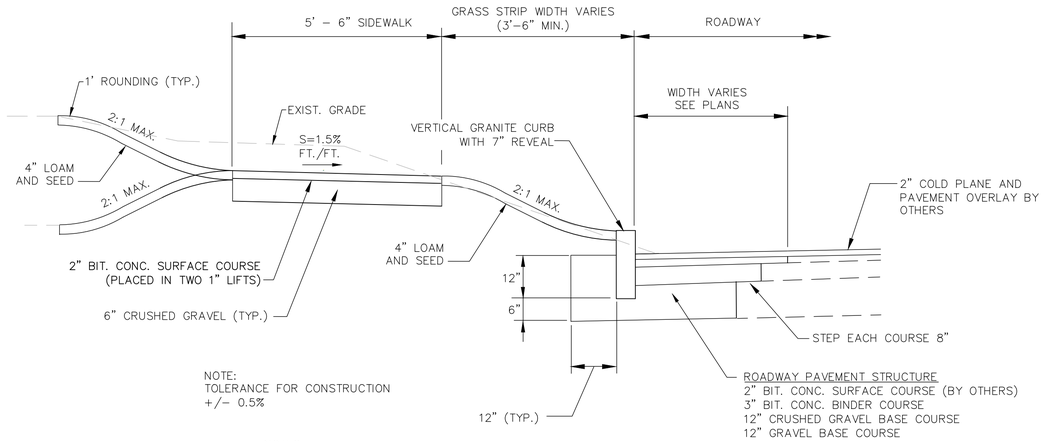
20 0 20 40
SCALE 1" = 20'

TRANSPORTATION ALTERNATIVES
PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

PROFILE – 3

SHEET NO.
11

APRIL 2020

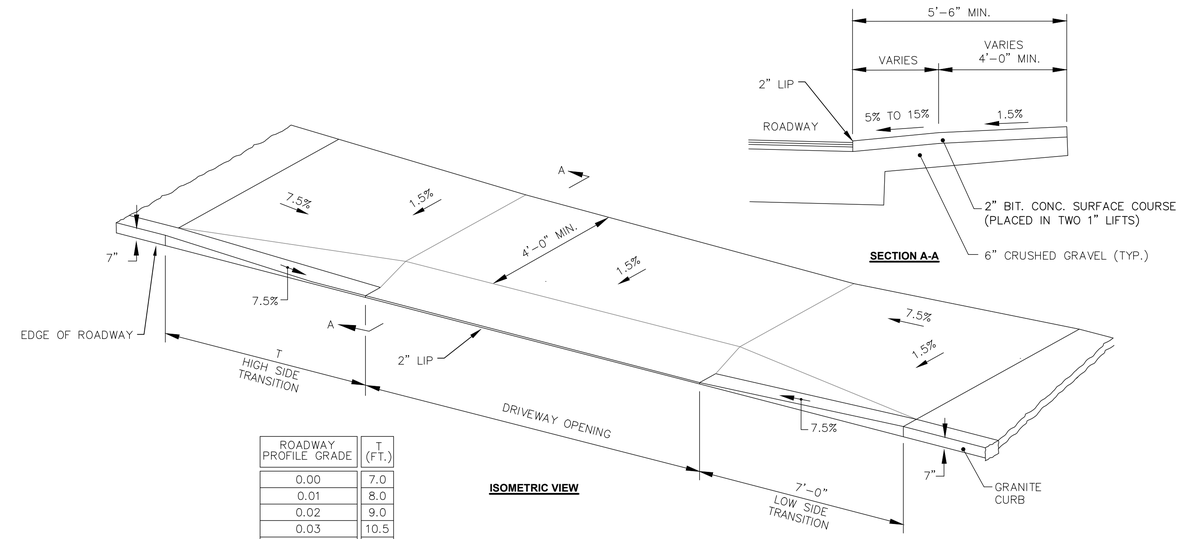


NOTES:

1. PAVEMENT PATCH MATERIALS SHALL MEET THE MINIMUM MATERIAL AND DEPTH SPECIFICATIONS SHOWN ABOVE AND BE INCREASED IF NEEDED TO MATCH THE SAME DEPTHS OF BASE COURSE AND PAVEMENT AS CURRENTLY EXIST.

TYPICAL SIDEWALK SECTION WITH GRASS STRIP

NOT TO SCALE



ROADWAY PROFILE GRADE	T (FT.)
0.00	7.0
0.01	8.0
0.02	9.0
0.03	10.5
0.04	12.5
0.05	15.0

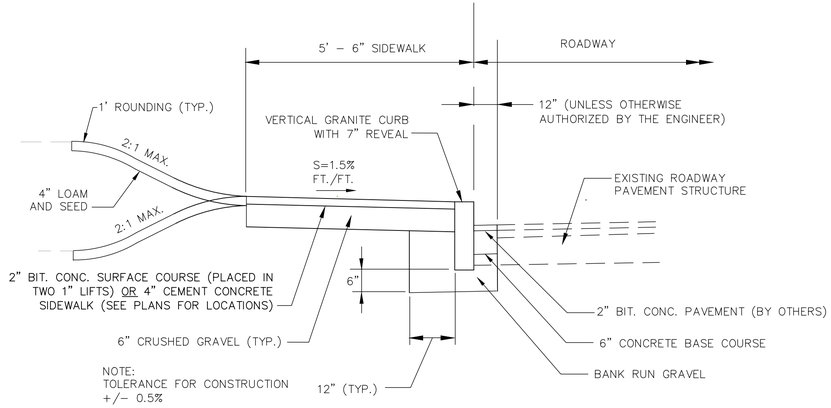
ISOMETRIC VIEW

NOTES:

1. COMMERCIAL DRIVEWAYS WILL HAVE A 3" PAVEMENT THICKNESS.

SIDEWALK THROUGH DRIVEWAY DETAIL

NOT TO SCALE

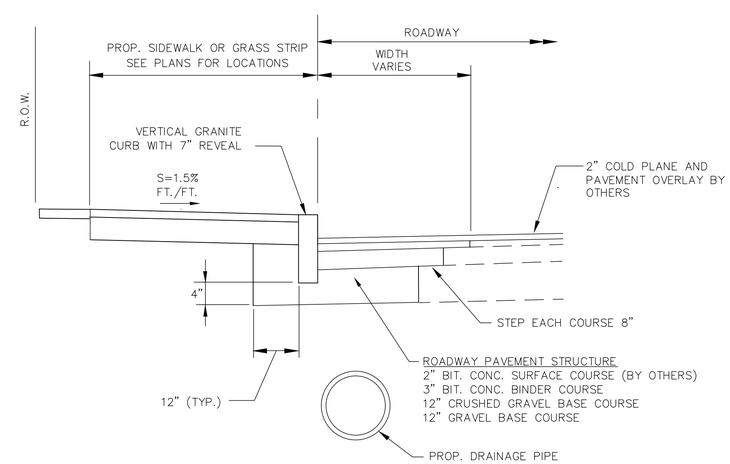


NOTES:

1. PAVEMENT PATCH MATERIALS SHALL MEET THE MINIMUM MATERIAL AND DEPTH SPECIFICATIONS SHOWN ABOVE AND BE INCREASED IF NEEDED TO MATCH THE SAME DEPTHS OF BASE COURSE AND PAVEMENT AS CURRENTLY EXIST.

TYPICAL SIDEWALK SECTION (NO WIDENING)

NOT TO SCALE



TYPICAL ROADWAY TRENCH PATCH SECTION

NOT TO SCALE

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE – MICHAEL P. WRANLE No. 10908 – LICENSED PROFESSIONAL ENGINEER
4–17–2020

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SCALE AS NOTED

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CONSTRUCTION DETAILS – 1

SHEET NO. 12

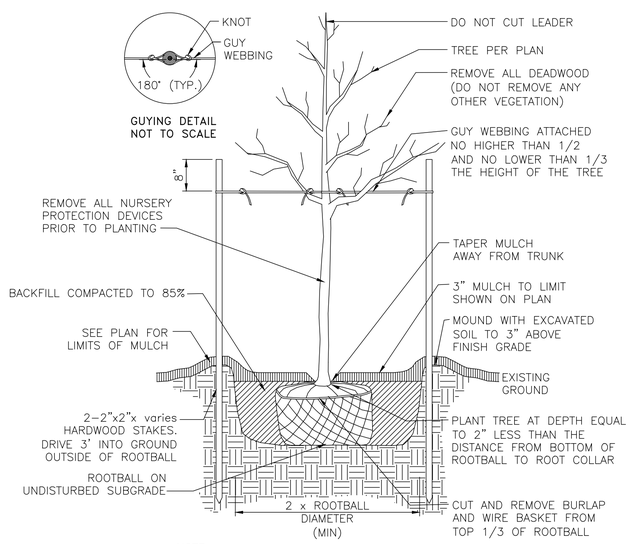
APRIL 2020

SIGN SUMMARY

SIGN DESIGNATION	TEXT	TEXT COLOR	BACKGROUND COLOR	SIZE	NUMBER	SQUARE FEET EACH	TOTAL SQUARE FEET
W16-7pL	DOWN ARROW (SYMBOL)	BLACK	YELLOW	21" x15"	12	2.2	26.4
W16-7pR	DOWN ARROW (SYMBOL)	BLACK	YELLOW/GREEN	21" x15"	12	2.2	26.4
W11-2	PEDESTRIAN (SYMBOL)	BLACK	YELLOW	30" x 30"	24	6.3	150.0
R1-1	STOP	WHITE	RED	30" x 30"	2	6.3	12.5
R5-1	DO NOT ENTER	WHITE	RED	30" x 30"	2	6.3	12.5
R6-1	ONE WAY	BLACK	WHITE	12" x 36"	2	3.0	6.0
							233.8

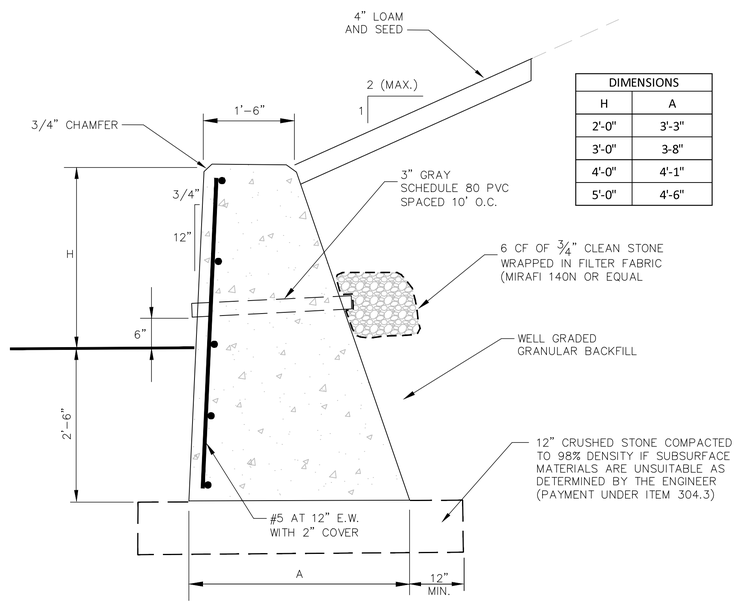
GENERAL TRAFFIC CONTROL NOTES:

1. TEMPORARY CONSTRUCTION SIGNING AND BARRICADES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
2. ALL TEMPORARY CONSTRUCTION SIGNING AND BARRICADES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
3. NO SIGNS SHALL BE ATTACHED TO DRUMS OR CONES. ALL CONSTRUCTION SIGNS SHALL BE ATTACHED TO THEIR OWN INDEPENDENT SUPPORTS.
4. TEMPORARY CONSTRUCTION SIGNS SHALL BE BLACK LEGEND WITH REFLECTORIZED ORANGE BACKGROUND (ENCAPSULATED LENS).
5. ALL SIGN LEGENDS AND BORDERS SHALL BE IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. PAVEMENT MARKINGS THAT ARE NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION SHALL BE OBLITERATED. TEMPORARY PAVEMENT MARKINGS SHALL BE USED AS NECESSARY AND SHALL BE IN PLACE BEFORE WORK IS COMPLETED EACH NIGHT.
7. THE CONTRACTOR SHALL SET UP APPROPRIATE TEMPORARY TRAVEL LANES AND TRAFFIC OPERATIONS (AS APPROVED BY THE ENGINEER AND PER MUTCD) TO FUNCTIONING WITHOUT FLAGGERS WHEREVER POSSIBLE. THIS MAY INCLUDE PROTECTING WORK AREAS WITH BARRIERS IF CONSTRUCTION OPERATIONS AT THAT LOCATION WILL LAST FOR A SIGNIFICANT PERIOD OF TIME (MORE THAN ONE WORK DAY).
8. POLICE OFFICERS WILL BE USED ONLY IF DIRECTED BY THE ASHLAND POLICE CHIEF AND APPROVED BY THE ENGINEER. USE OF POLICE OFFICERS AND FLAGGERS WITHOUT PRIOR APPROVAL WILL BE NOT ELIGIBLE FOR PAYMENT AND WILL BE PAID BY THE CONTRACTOR AT THEIR EXPENSE.
9. FOR 30 MPH POSTED SPEED THE TAPER LENGTH (L) IN FEET = 15 TIMES THE WIDTH OF LANE SHIFT (W).
10. ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE MUTCD AND IN PARTICULAR SECTION 6



NOTE:
1. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.

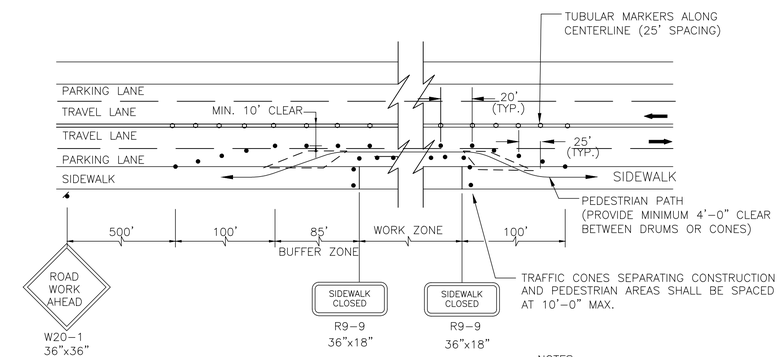
DECIDUOUS TREE STAKING AND PLANTING DETAIL
NOT TO SCALE



DIMENSIONS	
H	A
2'-0"	3'-3"
3'-0"	3-8"
4'-0"	4'-1"
5'-0"	4'-6"

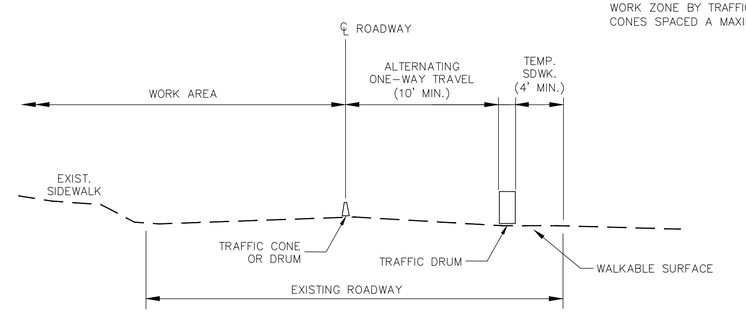
NOTES:
1. WORK SHALL BE IN CONFORMANCE WITH THE NHDOT STANDARD SPECIFICATIONS.
2. USE 1/2" PREFORMED JOINT FILLER AND BEVEL EXPOSED EDGES WITH 3/4" CHAMFER
3. SURFACE RUB EXPOSED FACE AND TOP
4. PROVIDE EXPANSION JOINTS EVERY 25'

TYPICAL CONCRETE WALL SECTION - 5'-0" MAXIMUM HEIGHT
NOT TO SCALE



SIDEWALK CLOSURE
NOT TO SCALE

NOTES
1. EXISTING SIDEWALKS OPEN TO THE PUBLIC AND ADJACENT TO THE WORK ZONE WILL BE SEPARATED FROM THE WORK ZONE BY TRAFFIC BARRELS OR CONES SPACED A MAXIMUM OF 10'-0"



TEMPORARY SIDEWALK SECTION
NOT TO SCALE

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE — MICHAEL J. MIRABILE — NO. 10941 — LICENSED PROFESSIONAL ENGINEER
4-17-2020

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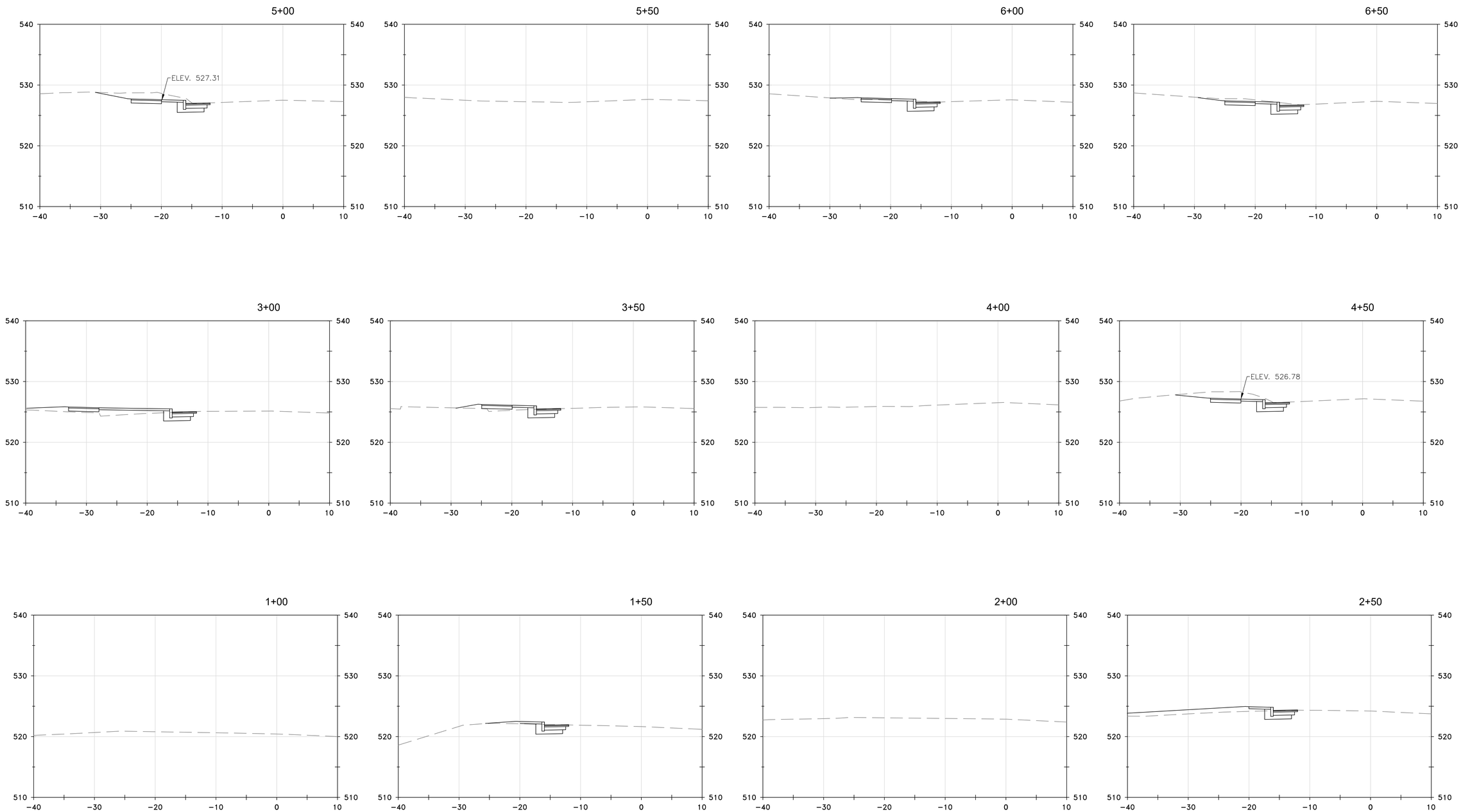
SCALE AS NOTED

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CONSTRUCTION DETAILS – 2

SHEET NO. 13

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL P. MANALE
No. 10962
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PROFESSIONAL ENGINEER
4-17-2020

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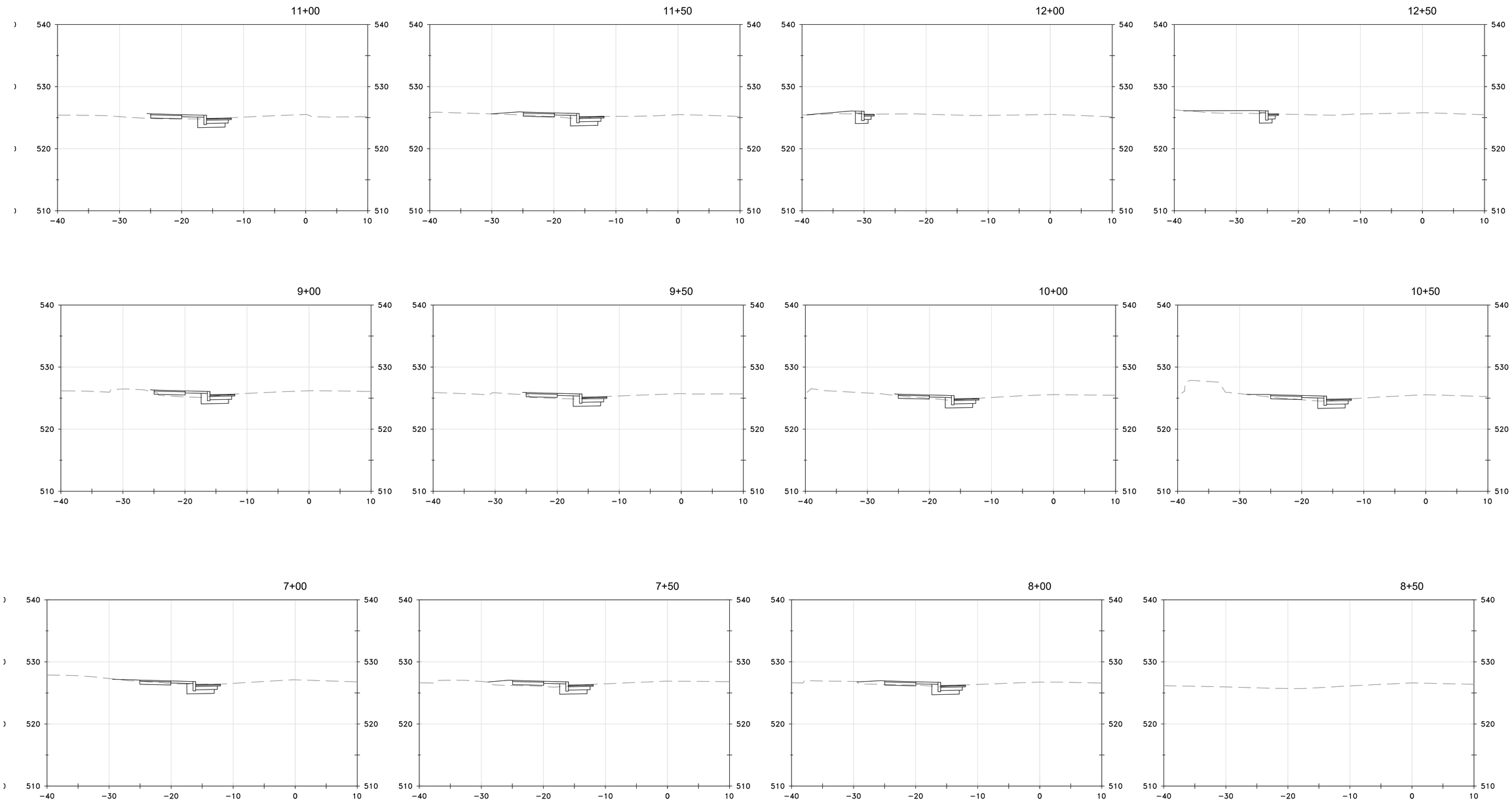
8 0 8 16
SCALE 1" = 8'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 1

SHEET NO.
14

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL K. MALE
No. 10969
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4-17-2020

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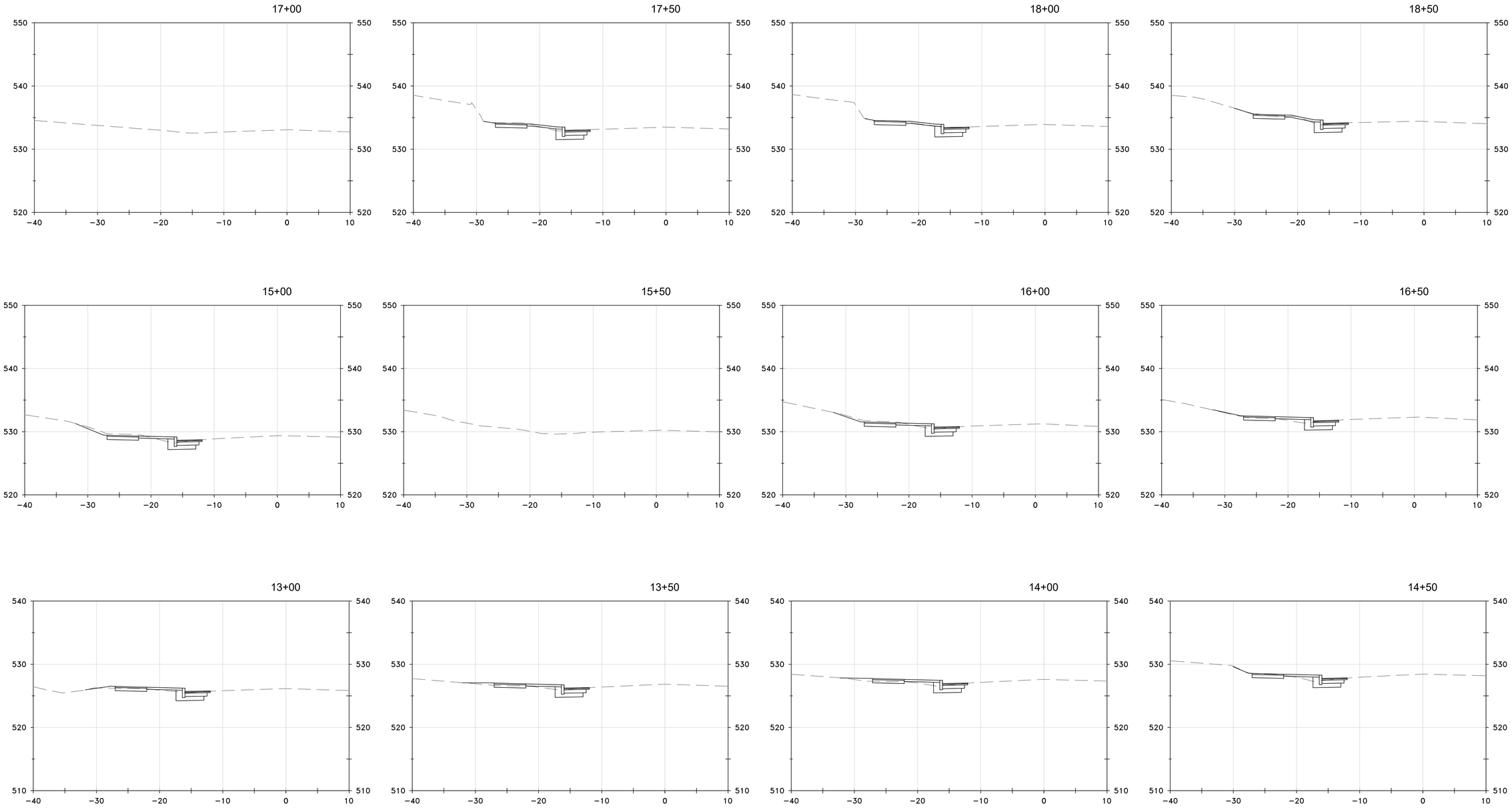
8 0 8 16
SCALE 1" = 8'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 2

SHEET NO.
15

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL S. WAINALE
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4-17-2020

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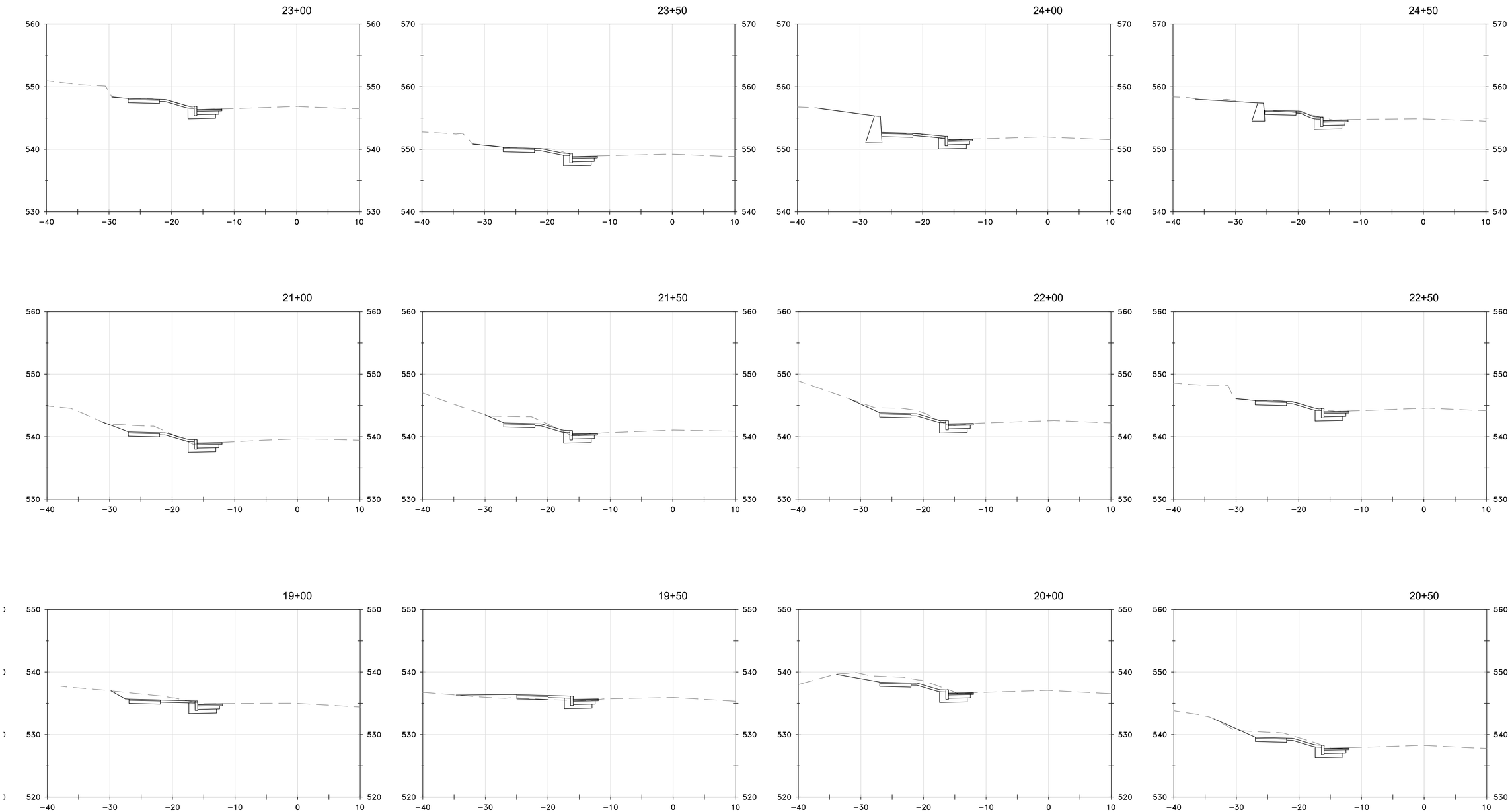
8 0 8 16
SCALE 1" = 8'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 3

SHEET NO.
16

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL A. WHALE
No. 10964
LICENSED
PROFESSIONAL ENGINEER
4-17-2020

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8 0 8 16
SCALE 1" = 8'

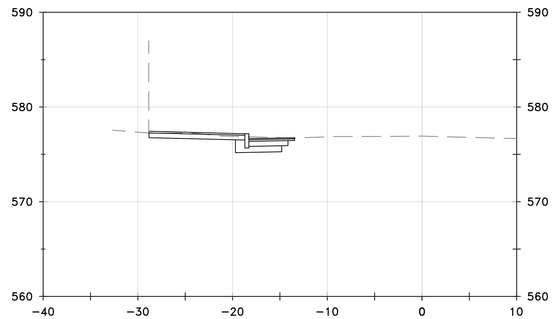
TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 4

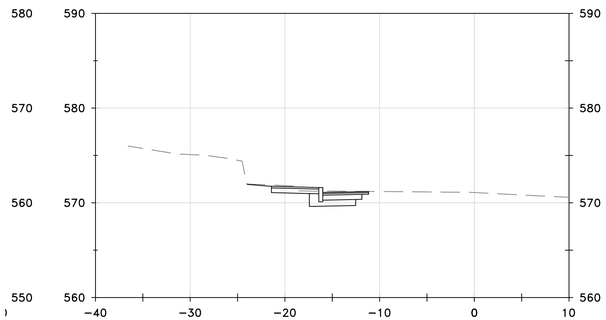
SHEET NO.
17

APRIL 2020

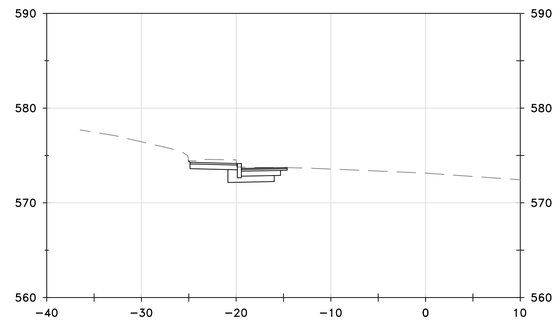
29+00



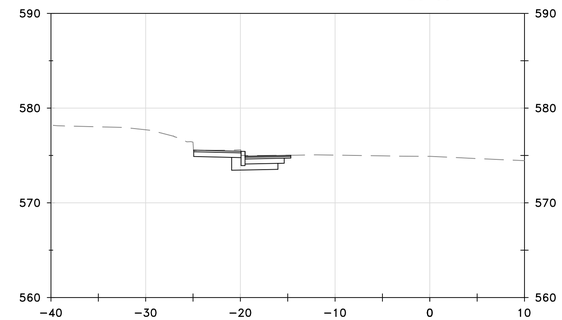
27+00



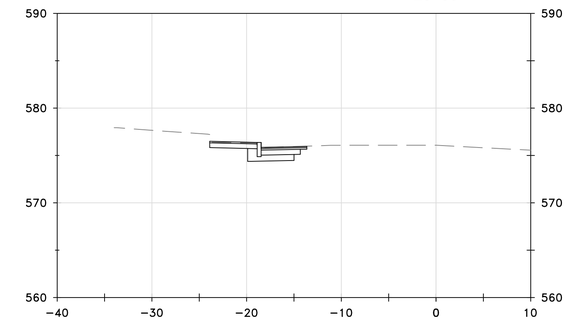
27+50



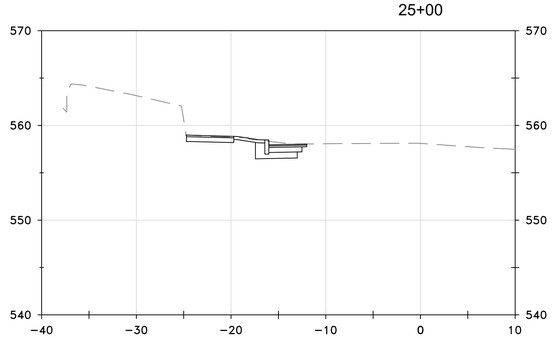
28+00



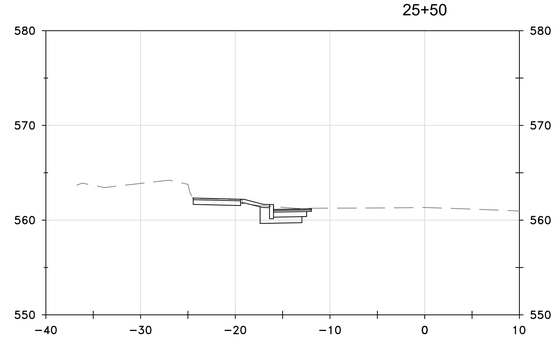
28+50



25+00



25+50



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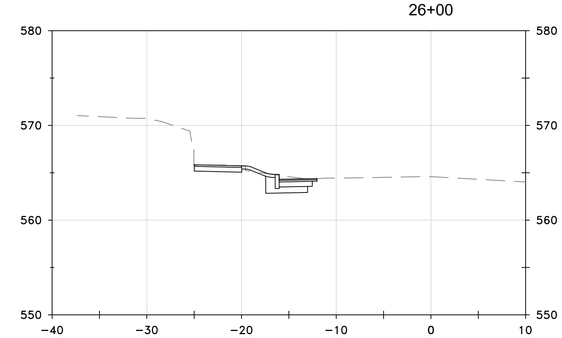
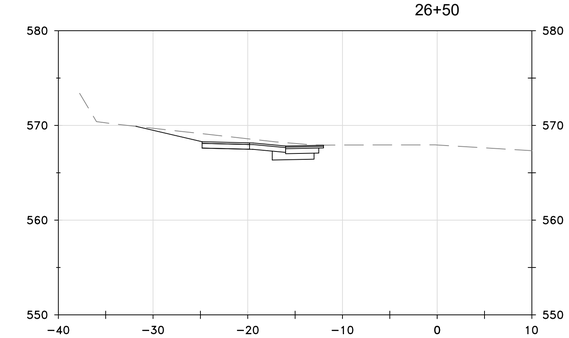


26+50



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL A. MINALE
No. 10969
LICENSED
PROFESSIONAL ENGINEER
4-17-2020

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P.O. Box 432
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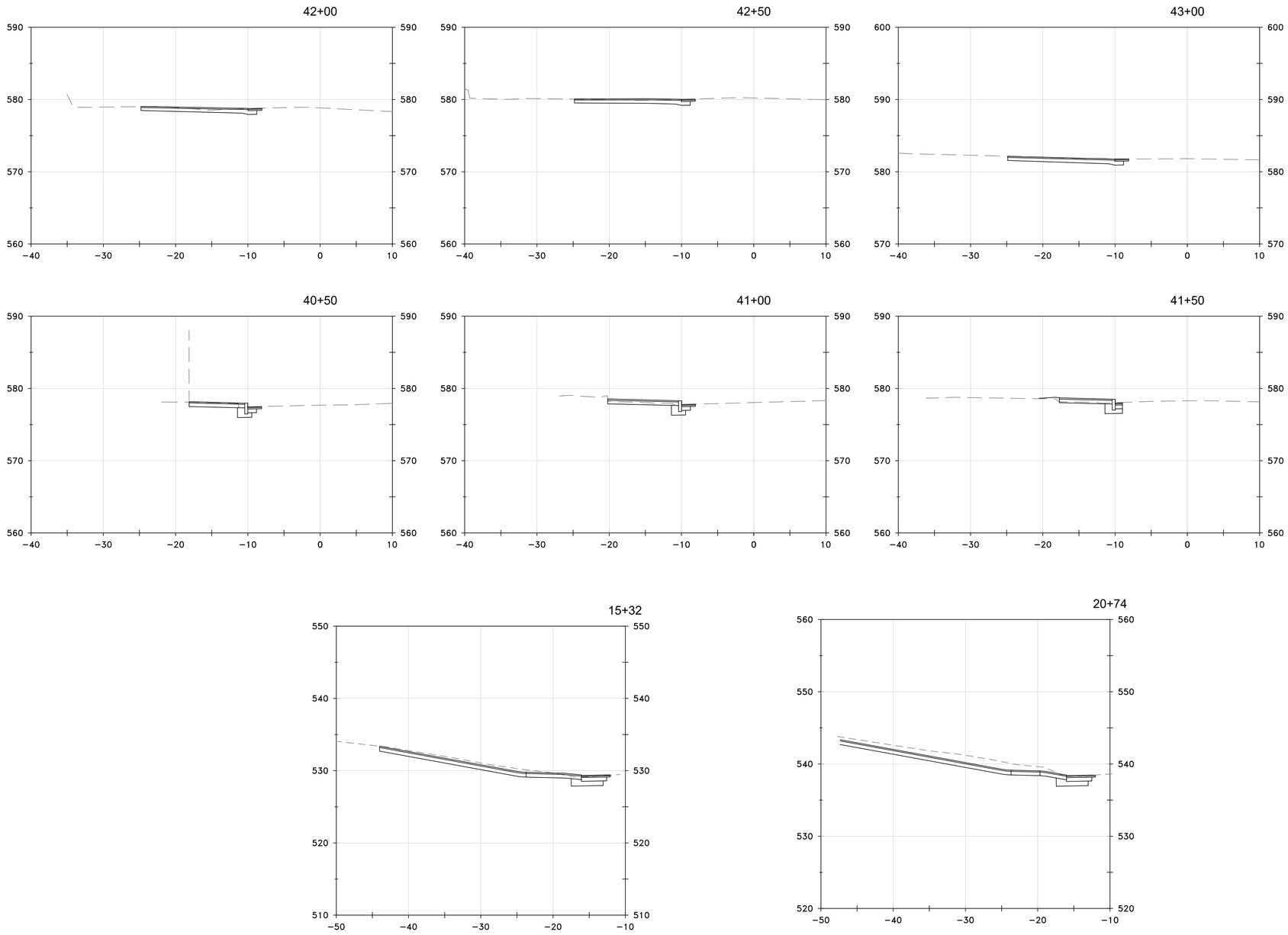
8 0 8 16
SCALE 1" = 8'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 5

SHEET NO.
18

APRIL 2020



REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE
MICHAEL J. VIGNALE No. 10969
PROFESSIONAL ENGINEER
LICENSED
4-17-2020

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8 0 8 16
SCALE 1" = 8'

TRANSPORTATION ALTERNATIVES PROGRAM SIDEWALK PROJECT (41370)
ASHLAND, NEW HAMPSHIRE

CROSS SECTIONS – 6

SHEET NO.
19

APRIL 2020

GENERAL NOTES:

1. THESE SHEETS ARE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), AND THE REQUIREMENTS OF THE 2011 PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT OF WAY (PROWAG).

2. NOT ALL FACILITIES CAN BE CONSTRUCTED TO MEET THE DESIGN STANDARDS. FACILITIES THAT CANNOT BE CONSTRUCTED TO MEET THE DESIGN STANDARDS SHALL BE CONSTRUCTED TO MEET THE STANDARDS TO THE GREATEST EXTENT PRACTICABLE. NONSTANDARD FEATURES SHALL BE DOCUMENTED ON TECHNICAL INFEASIBILITY FORM AND SUBMITTED TO NHDOT ADA COORDINATOR FOR APPROVAL.

3. TO CHECK FIELD LAYOUT ALL SLOPES AND GRADES SHALL BE MEASURED WITH A DIGITAL LEVEL USING AT LEAST TWO READINGS. WHERE THE READINGS VARY, THE MEASUREMENTS SHALL BE AVERAGED. GRADE (RUNNING SLOPE) SHALL BE MEASURED ALONG THE CENTERLINE AND OFFSET 1.00′ TO 1.50′ FROM THE CENTERLINE. CROSS SLOPES SHALL BE MEASURED PERPENDICULAR TO CENTERLINE AT 5.00′ TO 10.00′ INTERVALS.

4. GRADES (RUNNING SLOPES) ARE MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL. CROSS SLOPES ARE MEASURED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.

5. JOINTS BETWEEN SIDEWALKS, CURB RAMPS, TURNING SPACES AND ROADWAYS SHALL BE FLUSH AND FREE FROM ABRUPT VERTICAL CHANGES GREATER THAN 1/4″. VERTICAL SURFACE DISCONTINUITIES BETWEEN 1/4″ AND 1/2″ SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 2:1. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE JOINT. SEE DETAIL ON SHEET 9 OF 9.

6. SIDEWALKS ARE CONNECTED TO ROADWAYS BY EITHER BLENDED TRANSITIONS OR CURB RAMPS. BLENDED TRANSITIONS ARE CONNECTIONS BETWEEN THE SIDEWALK LEVEL AND THE ROADWAY LEVEL THAT HAVE A MAXIMUM GRADE (RUNNING SLOPE) OF 5%, AND TRANSITIONS GREATER THAN 5% ARE CONSIDERED CURB RAMPS.

7. CURB RAMPS AND BLENDED TRANSITIONS MAY REQUIRE THE INSTALLATION OF DETECTABLE WARNINGS. SEE ADDITIONAL "DETECTABLE WARNING DEVICE NOTES" ON THIS SHEET, AND DETAILS ON SHEET 6 OF 10 FOR DIMENSIONS, ORIENTATION AND INSTALLATION.

8. VERTICAL ALIGMENT SHALL BE GENERALLY PLANAR. GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL AND SHALL NOT BE ROUNDED.

9. THE CROSS SLOPE OF PEDESTRIAN ACCESS ROUTES (PAR) SHALL BE 2% MAXIMUM. THE FOLLOWING EXCEPTIONS ARE ALLOWED:

   A. WHERE PEDESTRIAN CROSSINGS ARE PROVIDED AT INTERSECTIONS WITHOUT YIELD OR STOP CONTROL OR WHERE THERE IS ANY TRAFFIC SIGNAL, THE CROSS SLOPE OF A PEDESTRIAN ACCESS ROUTE CONTAINED WITHIN A CROSSING SHALL BE 5% MAXIMUM.

   B. WHERE MIDBLOCK PEDESTRIAN CROSSINGS ARE PROVIDED, THE CROSS SLOPE OF A PEDESTRIAN ACCESS ROUTE CONTAINED WITHIN A MIDBLOCK CROSSING SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

10. THE MINIMUM CLEAR WIDTH FOR PEDESTRIAN ACCESS ROUTES IS 4.00′, EXCLUSIVE OF THE CURB. WHEN WALKWAY WIDTHS ARE LESS THAN 5.00′, 5.00′ x 5.00′ PASSING SPACES, OR A FEATURE OF EQUAL OR GREATER DIMENSIONS (E.G., DRIVEWAYS) THAT MEET THE SLOPE CRITERIA, SHALL BE PROVIDED AT A MAXIMUM INTERVAL OF 200′. EXISTING DRIVEWAYS AND STREET CROSSING MAY ALSO SERVE AS PASSING SPACES.

11. THE BUFFER ZONE IS A PHYSICAL DISTANCE SEPARATING THE PEDESTRIAN ACCESS ROUTE FROM THE VEHICLE TRAVELED WAY. THE BUFFER ZONE MAY BE PLANTED OR PAVED.

12. WHEN CROSSING DRIVEWAYS, THE WORK SHALL BE IN CONFORMANCE WITH NHDOT DRIVEWAY DETAILS SHEET. THE CROSS SLOPE ACROSS DRIVEWAYS SHALL BE 2% MAXIMUM.

13. FOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTONS, SEE DETAILS ON SHEET 8 OF 9.

14. FOR RAMP COUNTER SLOPE REQUIREMENTS, SEE DETAILS ON SHEET 9 OF 9.

CURB RAMP NOTES:

15. THE MINIMUM WIDTH OF A CURB RAMP SHALL BE 4.00′.

16. THE FULL WIDTH OF THE RAMP OR LANDING SHALL BE CONTAINED WITHIN THE PAVEMENT MARKINGS AT MARKED CROSSWALKS.

17. CURB RAMPS ARE NOT REQUIRED IN LOCATIONS WHERE THERE IS NO ACCESSIBLE PEDESTRIAN ACCESS ROUTE. UNLESS IT IS SERVING AS A LANDING FOR A PEDESTRIAN SIGNAL.

18. THE GRADE (RUNNING SLOPE) OF A CURB RAMP SHALL BE A MAXIMUM OF 8.3%.

19. WHERE EXISTING CONDITIONS DO NOT ALLOW THE CONSTRUCTION OF A CURB RAMP WITH A GRADE (RUNNING SLOPE) OF 8.3% OR LESS, THE RAMP LENGTH SHALL NOT BE REQUIRED TO EXCEED 15.00′.

20. THE CROSS SLOPE OF THE CURB RAMP SHALL BE AS FLAT AS POSSIBLE AND STILL PROVIDE POSITIVE DRAINAGE. THE CROSS SLOPE OF A CURB RAMP 2% MAXIMUM. SEE NOTE 9 FOR EXCEPTIONS. WHERE THE EXISTING ROADWAY GRADE EXCEEDS 2%, THE CURB RAMP MAY BE WARPED ACCORDING TO THE DETAIL ON SHEET 9 OF 9 TO TIE INTO THE ROADWAY GRADE.

21. RAMP SIDE TREATMENT OPTIONS ARE DETAILED ON SHEET 7 OF 9 FOR USE WITHIN THE BUFFER ZONE. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES SHALL BE INSTALLED WITH A SLOPE OF 10% MAXIMUM. THE SLOPE OF FLARED SIDES IS MEASURED PARALLEL TO THE CURB LINE. (ALSO SEE CURB RAMP CONFIGURATION TYPE 7 ON SHEET 3 OF 9.)

22. THE BACKSIDE OF A PARALLEL RAMP SHOULD BE GRADED TO MATCH EXISTING TERRAIN, UNLESS OTHERWISE SHOWN IN THE CONTRACT DOCUMENTS. WHERE GRADING IS NOT FEASIBLE DUE TO LIMITED ROW OR PHYSICAL CONSTRAINTS, A BACK CURB MAY BE INSTALLED. SEE DETAILS ON SHEET 7 OF 9.

TURNING SPACE AND CLEAR SPACE NOTES:

23. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE AND/OR THE TOP OF CURB RAMP AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.

24. WHERE THERE ARE NO VERTICAL CONSTRAINTS AT THE BACK OF SIDEWALK, (E.G., VERTICAL CURB, BUILDINGS, FENCES) THE TURNING SPACE DIMENSIONS SHALL BE 4.00′ × 4.00′ MINIMUM. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4.00′ X 5.00′ MINIMUM. THE 5.00′ DIMENSION SHALL BE PROVIDED PERPENDICULAR TO THE CONSTRAINT.

25. TURNING SPACE MAXIMUM CROSS SLOPE IS 2% IN ANY DIRECTION.

26. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4.00′ x 4.00′ MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.

DETECTABLE WARNING DEVICE NOTES:

27. DETECTABLE WARNING DEVICES (DWD) SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS ON PEDESTRIAN ACCESS ROUTES:

    A. CURB RAMPS AT PEDESTRIAN CROSSINGS.

    B. PEDESTRIAN REFUGE ISLANDS (WHERE THE LENGTH OF THE PEDESTRIAN ACCESS ROUTE ACROSS THE REFUGE ISLAND IS GREATER THAN OR EQUAL TO 6.00′). SEE SHEET 8 OF 9.

    C. PEDESTRIAN AT-GRADE RAIL CROSSINGS NOT LOCATED WITHIN A STREET OR HIGHWAY.

    D. DRIVEWAY CROSSINGS WITH NHDOT APPROVED AND MAINTAINED SIGNALS, YIELD OR STOP CONTROL. DETECTABLE WARNING DEVICES SHALL NOT BE PROVIDED AT CROSSINGS OF UNCONTROLLED DRIVEWAY APRONS.

28. SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. IF REQUIRED, THE BORDER SHALL NOT EXCEED 2″ IN WIDTH OR 6″ ALONG ROADWAY EDGE/CURB. THE BORDER DIMENSION SHALL BE MEASURED FROM THE INSIDE EDGE OF THE RADIUS.

29. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING DEVICE DETAIL IS FOR ILLUSTRATION ONLY. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 2.00′ MINIMUM IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUDING ANY FLARED SIDES. THE WIDTH OF THE DETECTABLE WARNING FIELD INCLUDES A CONCRETE BORDER, IF PROVIDED. PLACEMENT AND ORIENTATION SHALL BE IN COMPLIANCE WITH THE DETAILS.

30. ON SLOPES OF 5% OR GREATER, THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE LOWER GRADE BREAK ON THE RAMP RUN. WHERE DOMES ARE ARRAYED RADIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON SHEET 9. ON SLOPES LESS THAN 5%, DOME ORIENTATION IS LESS CRITICAL AND MAY DIFFER FROM PERPENDICULAR OR RADIAL ALIGNMENT TO THE GRADE BREAK.

31. THE DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE.

32. DETECTABLE WARNING PANELS SHALL BE CAST IRON WITH NO SURFACE COATING AND SHALL BE ALLOWED TO TRANSITION TO THEIR NATURAL PATINA.

DEFINITION OF TERMS:

LANDING: A 4.00′ X 4.00′ CLEAR SPACE WITH A 2% SLOPE OR LESS IN ALL DIRECTIONS.

MAXIMUM EXTENT FEASIBLE: ALL CHANGES THAT ARE POSSIBLE ARE MADE TO COMPLY WITH ACCESSIBILITY STANDARDS.

PEDESTRIAN ACCESS ROUTE (PAR): A CONTINUOUS AND UNOBSTRUCTED PATH OF TRAVEL PROVIDED FOR PEDESTRIANS WITH DISABLITIES WITHIN OR CONINCIDING WITH A PEDESTRIAN CIRCULATION PATH. PAR SHALL BE 4′W MIN.(EXCLUDING CURBING), 2% MAX. CROSS SLOPE AND 1/4″ OR LESS VERTICAL DISCONTINUITY.

TECHNICAL INFEASIBILITY: EXISTING PHYSICAL OR SITE CONSTRAINTS THAT PROHIBIT MODIFICATIONS OR ADDITIONS OF ELEMENTS, SPACES OR FEATURES TO COMPLY WITH MINIMUM ACCESSIBILITY REQUIREMENTS.

INDEX OF SHEETS

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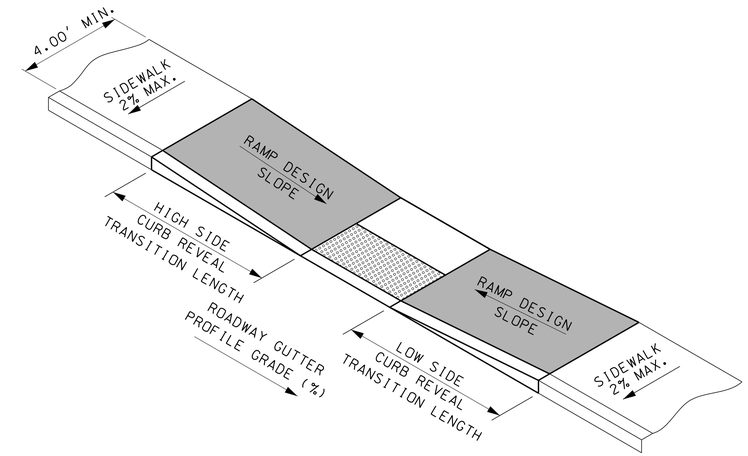
6 OF 9	DETECTABLE WARNING DEVICE PLACEMENT OPTIONS
7 OF 9	RAMP SIDE CONFIGURATIONS AND BACK TREATMENTS
8 OF 9	RR X-INGS, ROUNDABOUTS, PEDESTRIAN BUTTONS
9 OF 9	DETECTABLE WARNING DEVICE, TRUNCATED DOMES, MISCELLANEOUS DETAILS



TYPICAL CURB TRANSITION LENGTH TABLE

CURB REVEAL (INCHES)		7	6	5	4	3	2	1
	ROADWAY PROFILE GRADE (%)	Minimum Transition Length Required (FT)						
Low Side Transition Length	-10%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-9%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-8%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-7%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-6%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-5%	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	-4%	5.1	5.0	5.0	5.0	5.0	5.0	5.0
	-3%	5.6	5.0	5.0	5.0	5.0	5.0	5.0
	-2%	6.1	5.3	5.0	5.0	5.0	5.0	5.0
	-1%	6.9	5.9	5.0	5.0	5.0	5.0	5.0
	0%	7.8	6.7	5.6	5.0	5.0	5.0	5.0
High Side Transition Length	1%	9.0	7.7	6.4	5.1	5.0	5.0	5.0
	2%	10.6	9.1	7.6	6.1	5.0	5.0	5.0
	3%	13.0	11.1	9.3	7.4	5.6	5.0	5.0
	4%	15.0	14.3	11.9	9.5	7.1	5.0	5.0
	5%	15.0	15.0	15.0	13.3	10.0	6.8	5.0
	6%	15.0	15.0	15.0	15.0	15.0	11.3	5.3
	7%	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	8%	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	9%	15.0	15.0	15.0	15.0	15.0	15.0	15.0
	10%	15.0	15.0	15.0	15.0	15.0	15.0	15.0

THIS TABLE REPRESENTS THE MINIMUM LENGTH OF CURB RAMP TRANSITION BASED ON THE EXISTING ROADWAY PROFILE GRADE AND THE CURB REVEAL AT FULL HEIGHT ALONG THE SIDEWALK. THE MINIMUM TRANSITION LENGTH REQUIRED IS BASED ON 7.5% SLOPE AND INDICATED CURB REVEAL.

TREATMENT KEY LEGEND

(RESURFACING STYLE PROJECTS)

#-#-$-$

- RAMP BACK TREATMENT OPTION - SEE SHEET 7
- RAMP SIDE CONFIGURATION - SEE SHEET 7
- DETECTABLE WARNING DEVICE PLACEMENT - SEE SHEET 6
- RAMP CONFIGURATION TYPE - SEE SHEETS 2-5
- (X = OMIT THIS OPTION)

STATE OF NEW HAMPSHIRE
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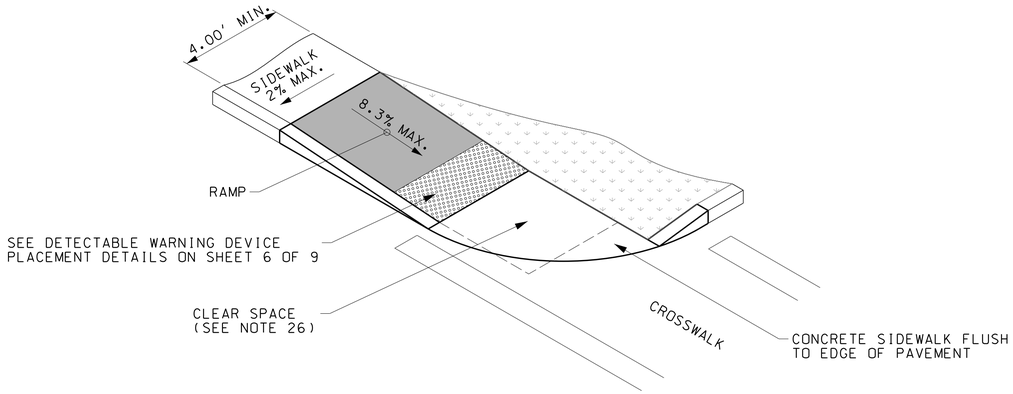
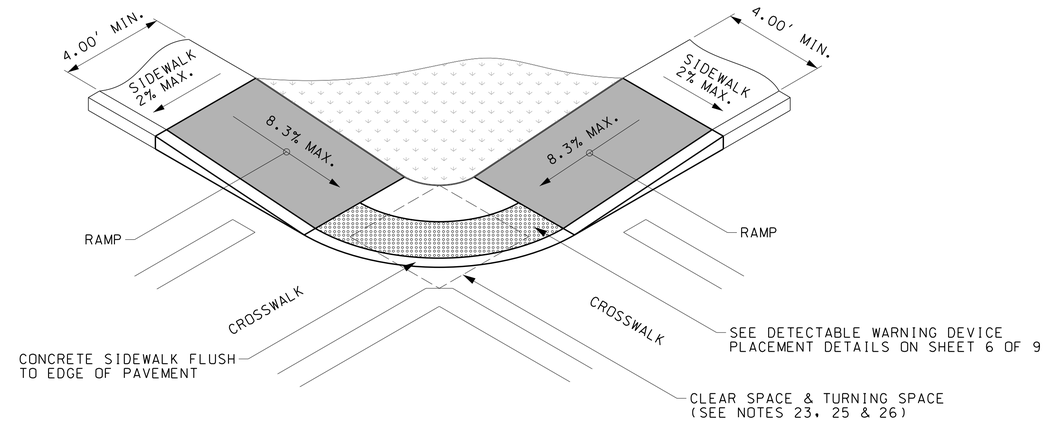
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

SIDEWALK CURB RAMP DETAILS (SHEET 1 OF 9)

REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-1	crb_ramp_1-9	_	1	9

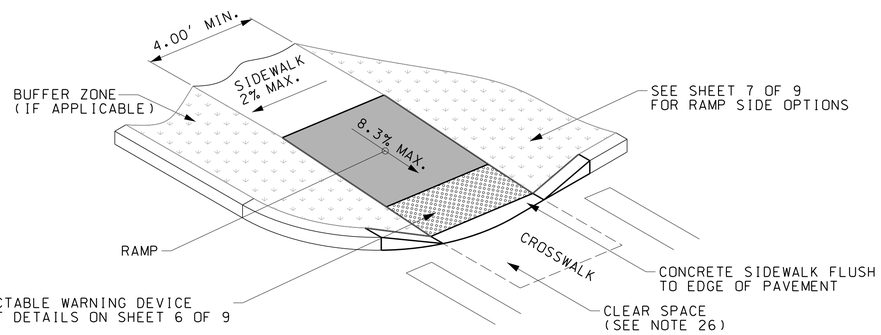


TYPE 1

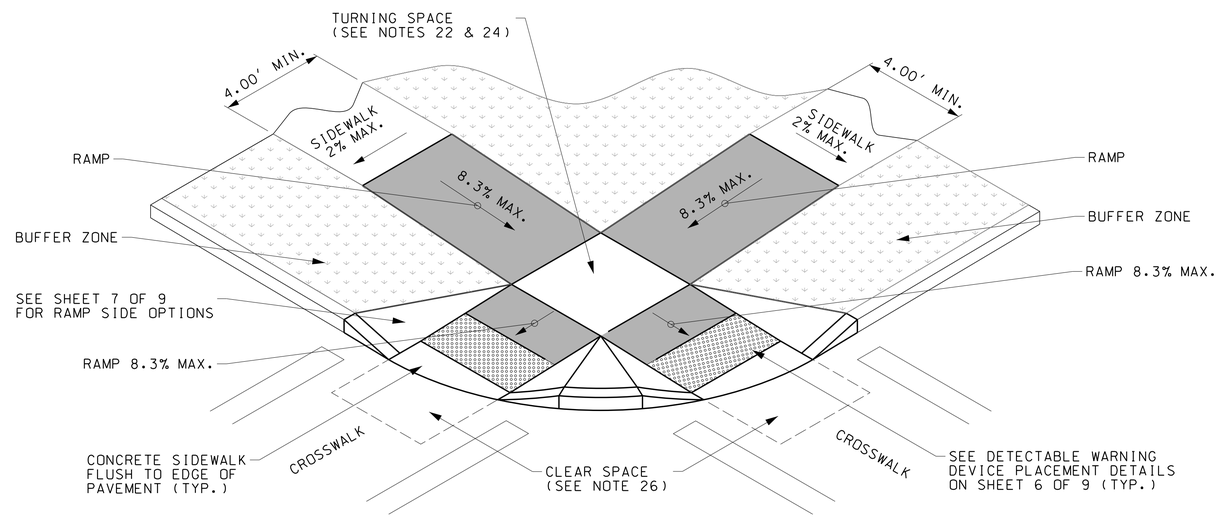


TYPE 4

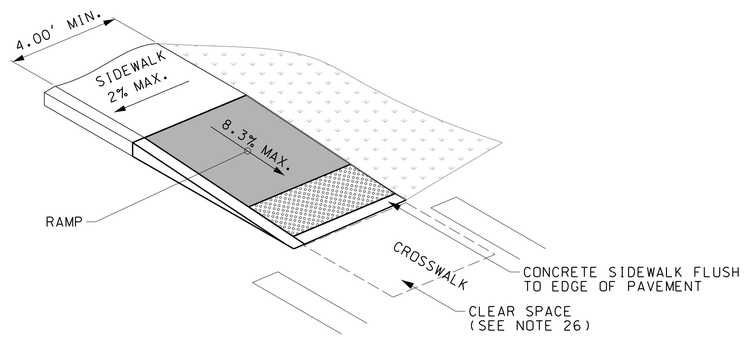
NOT FOR NEW DESIGNS - RETROFITS ONLY



TYPE 2



TYPE 5



TYPE 3

CURB RAMP CONFIGURATIONS

NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

STATE OF NEW HAMPSHIRE
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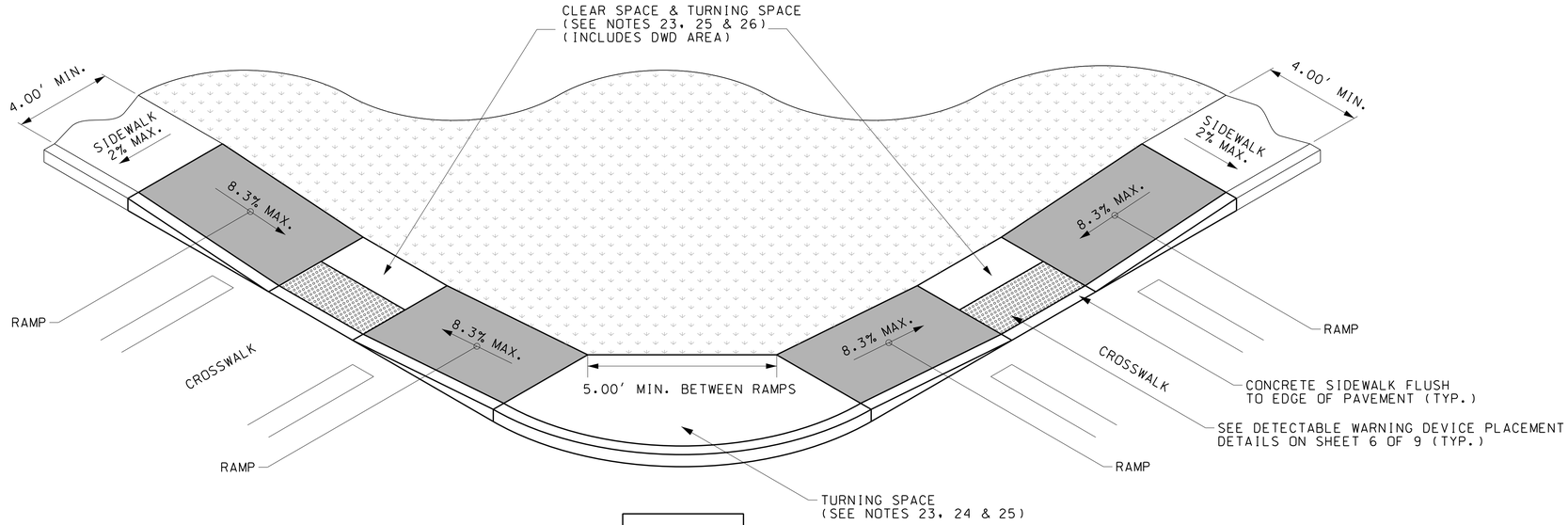
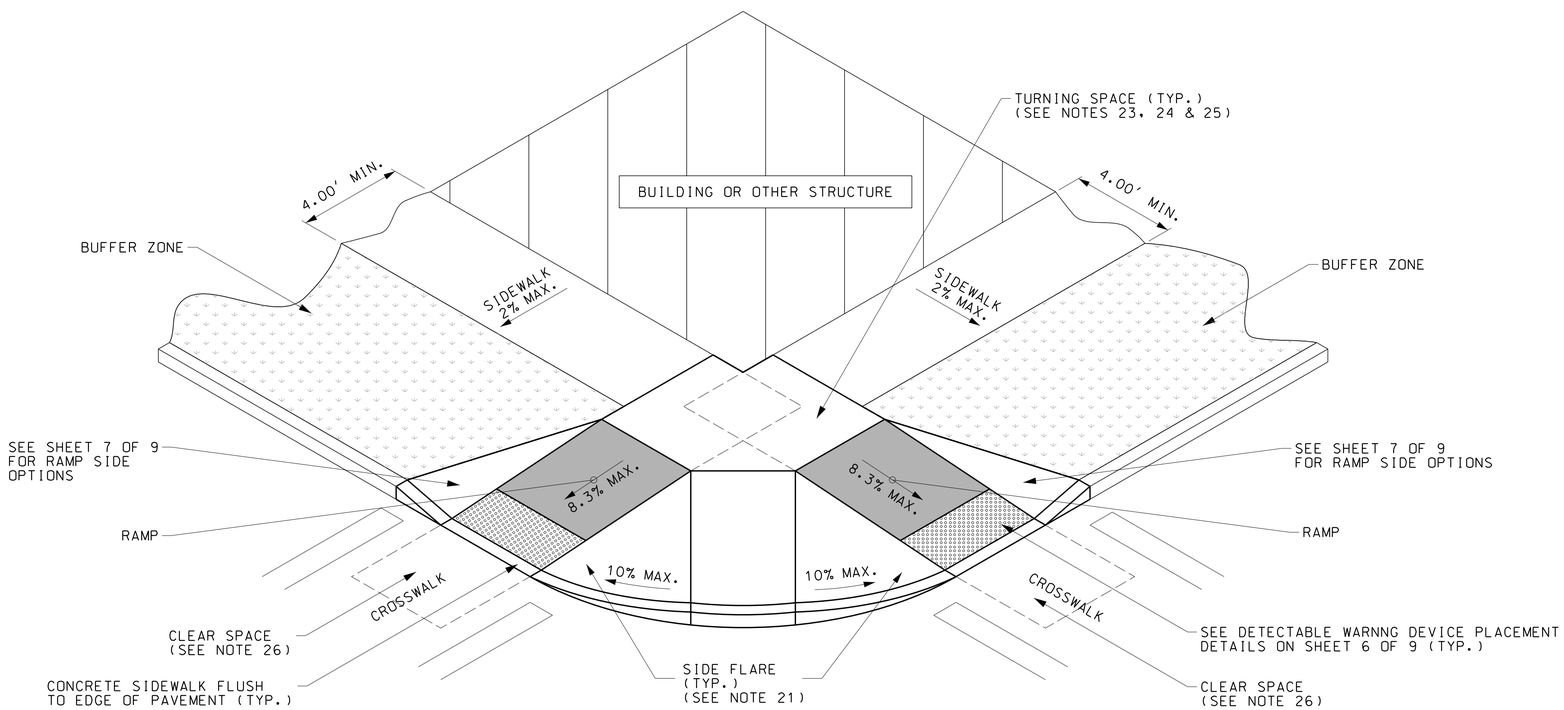
SIDEWALK CURB RAMP DETAILS (SHEET 2 OF 9)

REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
7-2-18	Curb-Ramp-2	crb_ramp_1-9	_	2	9



TYPE 6



TYPE 7

CURB RAMP CONFIGURATIONS

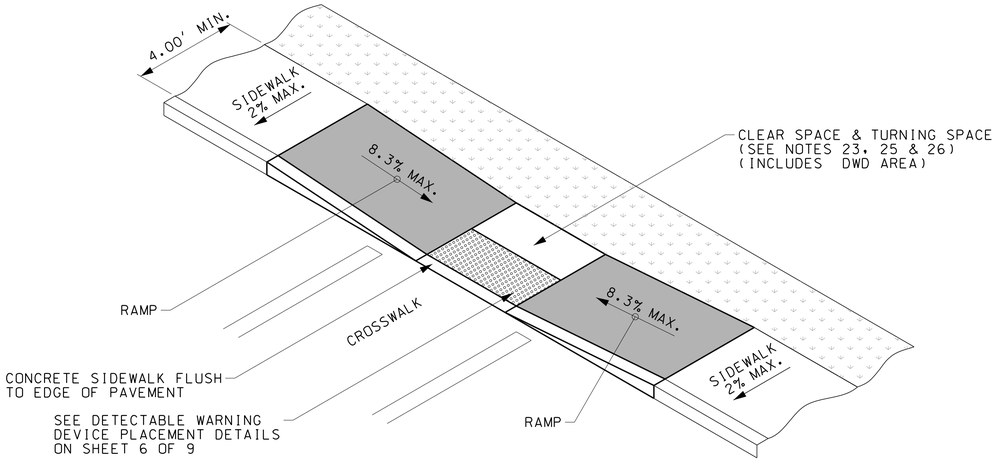
NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

STATE OF NEW HAMPSHIRE
SPECIAL DETAILS
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

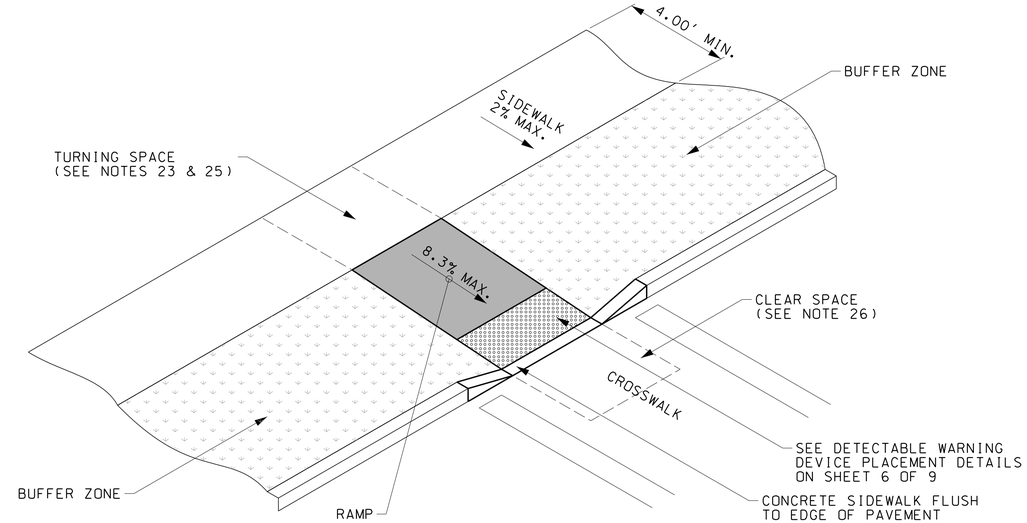
SIDEWALK CURB RAMP DETAILS (SHEET 3 OF 9)

REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-3	crb_ramp_1-9	_	3	9



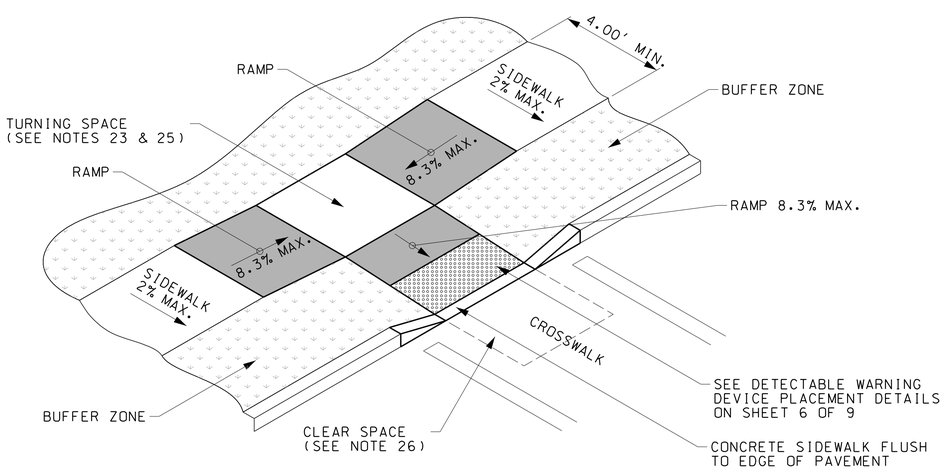
TYPE 8

MID BLOCK CROSSING OR T INTERSECTION



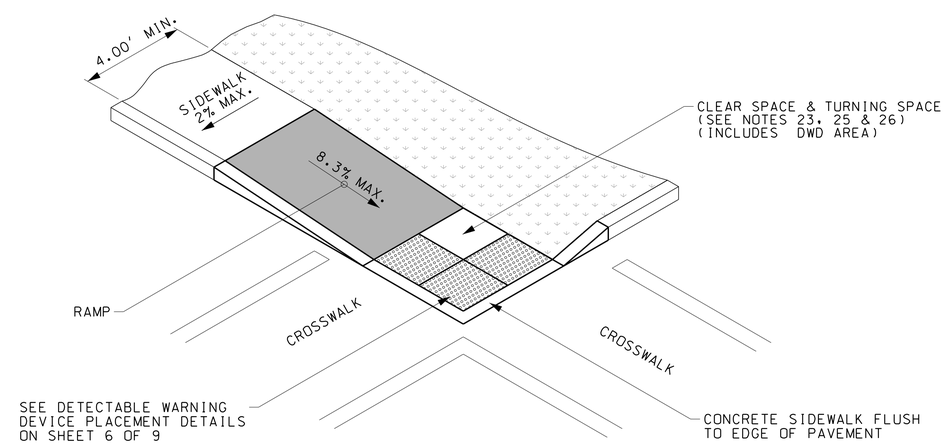
TYPE 10

MID BLOCK CROSSING OR T INTERSECTION



TYPE 9

MID BLOCK CROSSING OR T INTERSECTION



TYPE 11

CURB RAMP CONFIGURATIONS

NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

STATE OF NEW HAMPSHIRE
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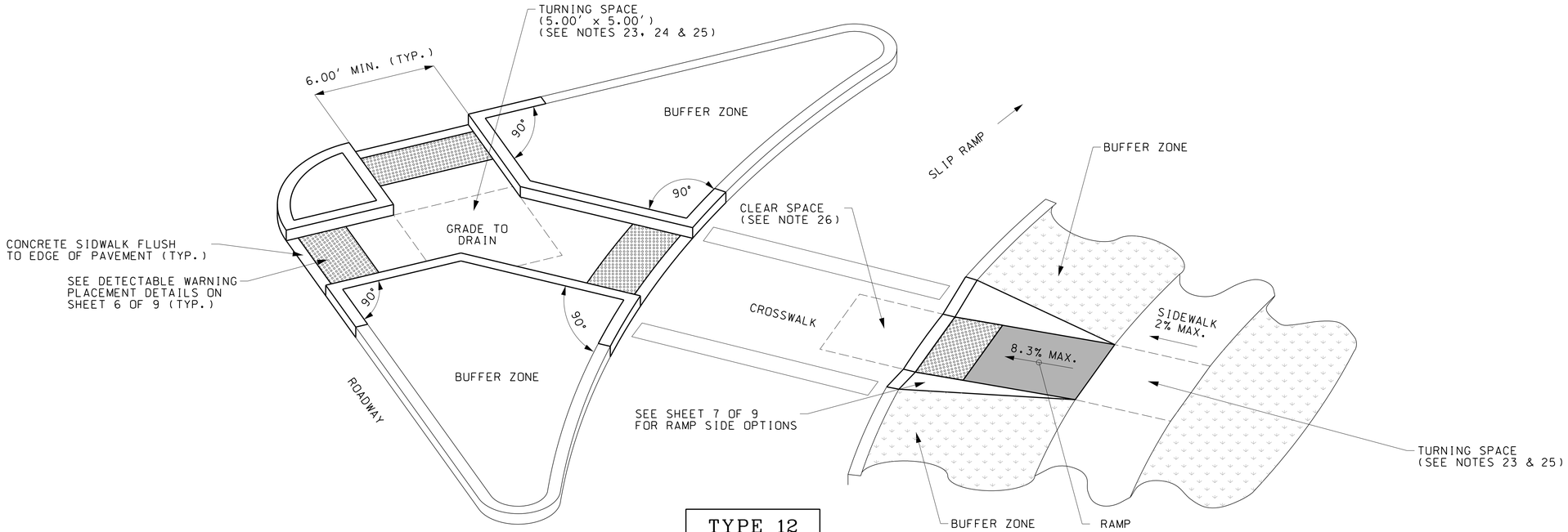
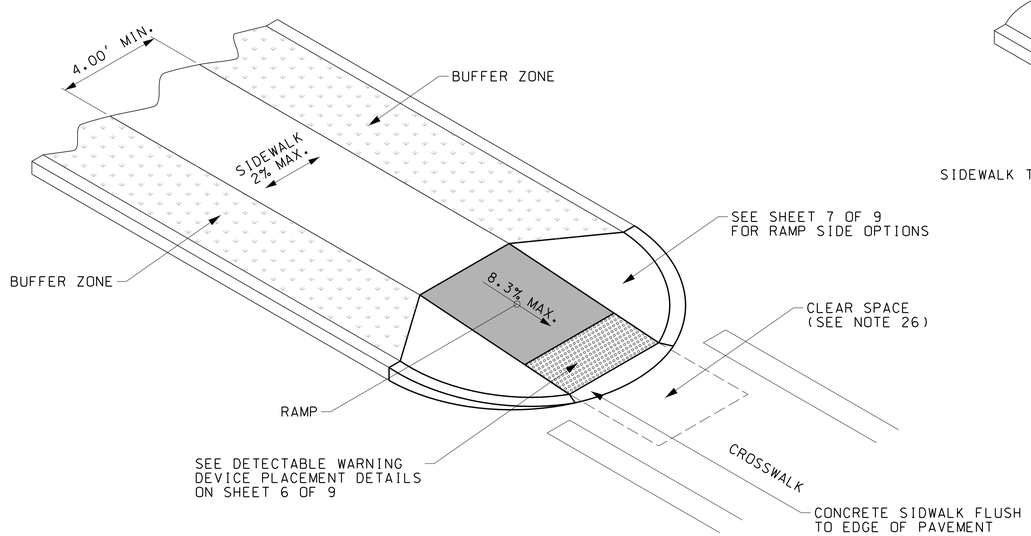
SIDEWALK CURB RAMP DETAILS (SHEET 4 OF 9)

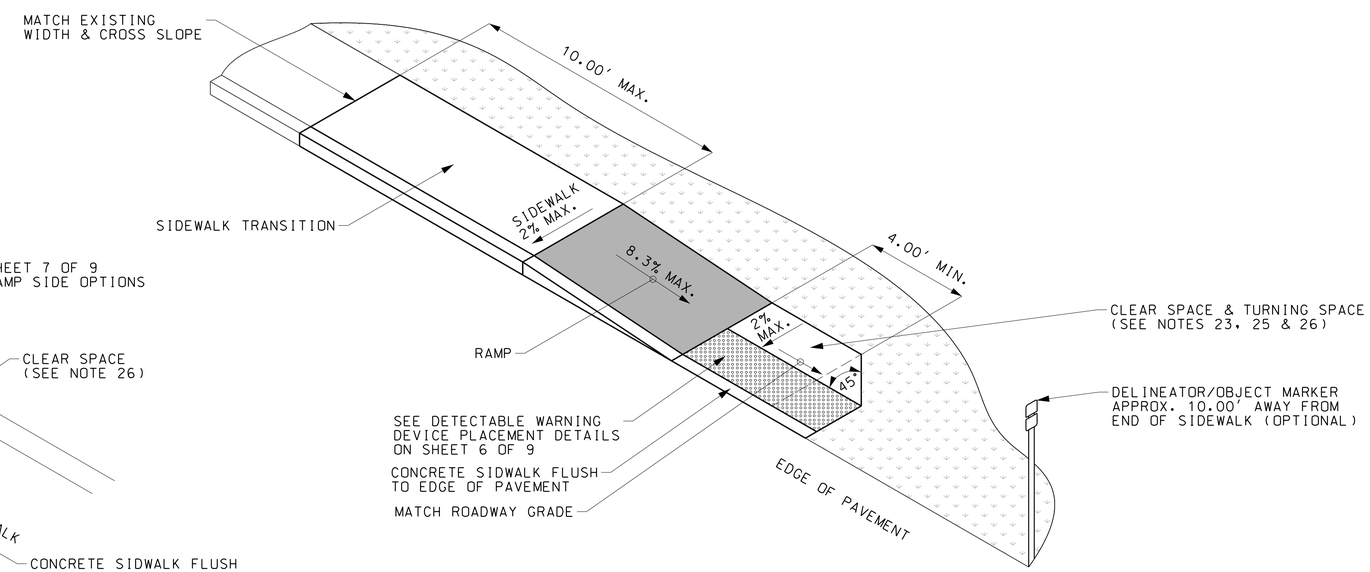
REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-4	crb_ramp_1-9	_	4	9



TYPE 12
SLIP RAMP



TYPE 13
ACCESS ISLAND CURB RAMP



TYPE 14
SIDEWALK TO SHOULDER TRANSITION

CURB RAMP CONFIGURATIONS

NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

STATE OF NEW HAMPSHIRE
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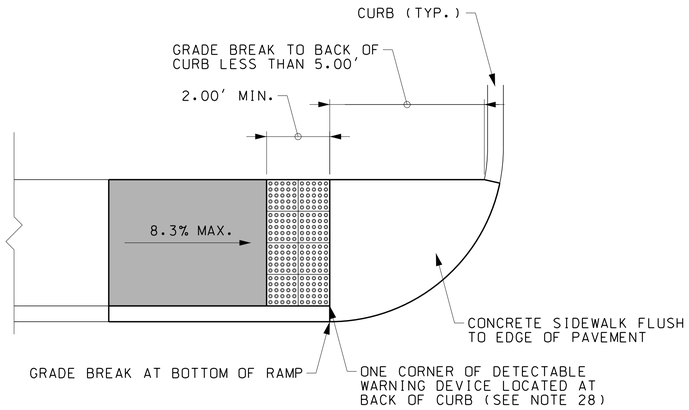
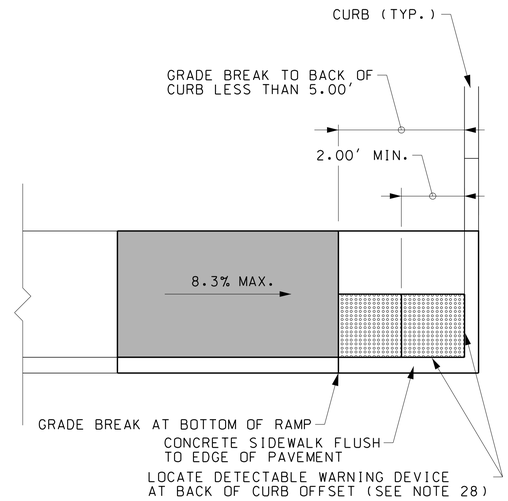
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

SIDEWALK CURB RAMP DETAILS (SHEET 5 OF 9)

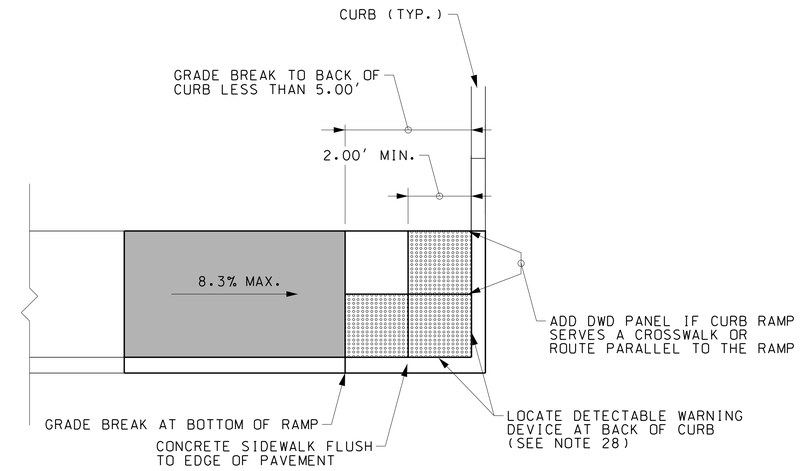
REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-5	crb_ramp_1-9	_	5	9



OPTION 1

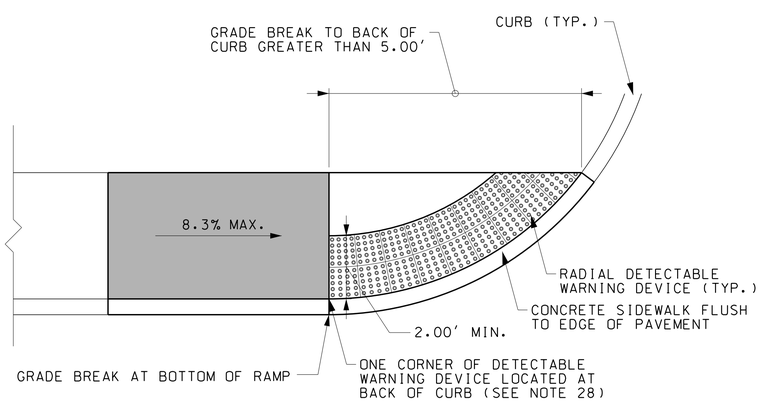


OPTION 2

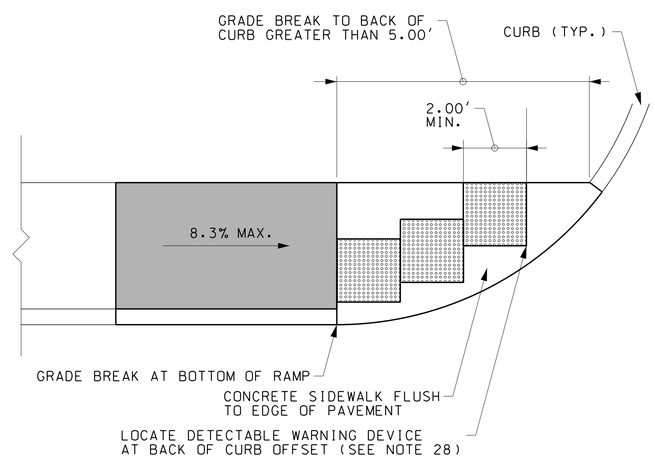


OPTION 2A

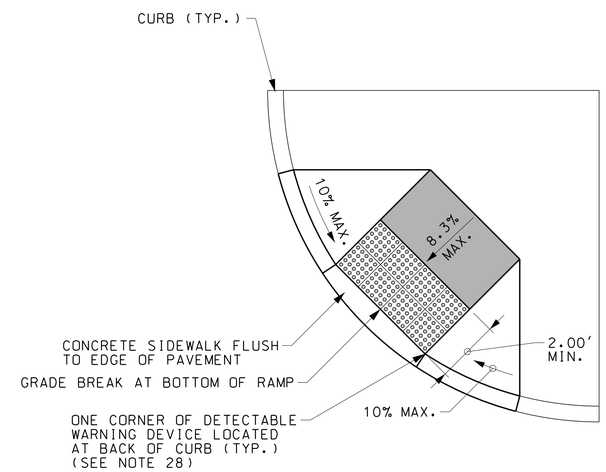
GRADE BREAK TO BACK OF CURB LESS THAN 5.00'



OPTION 3



OPTION 4



OPTION 5

GRADE BREAK TO BACK OF CURB GREATER THAN 5.00'

DETECTABLE WARNING DEVICE (DWD) PLACEMENT OPTION DETAILS

STATE OF NEW HAMPSHIRE
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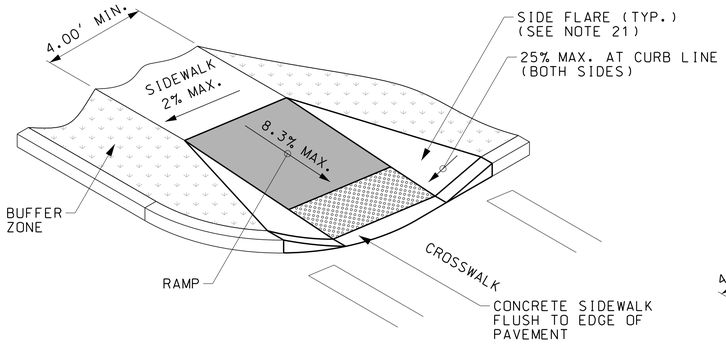
SIDEWALK CURB RAMP DETAILS
(SHEET 6 OF 9)

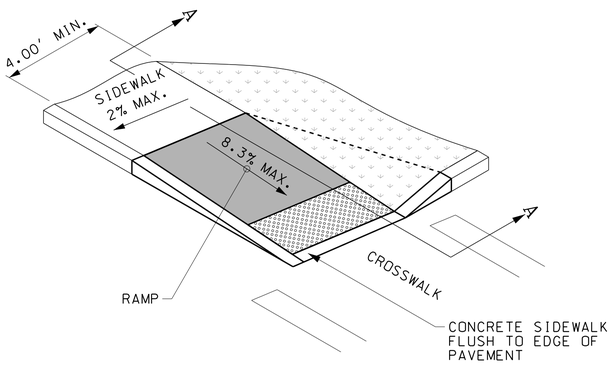
NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

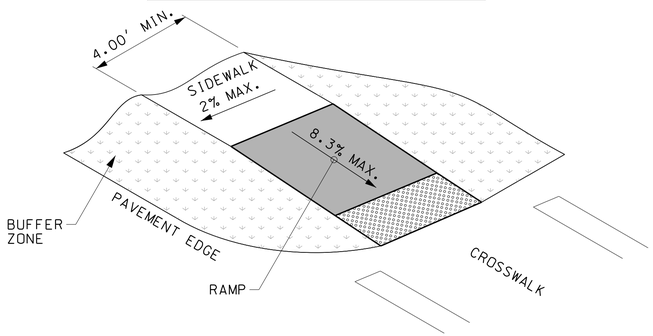
REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-6	crb_ramp_1-9	_	6	9



OPTION A
FLARED CONCRETE

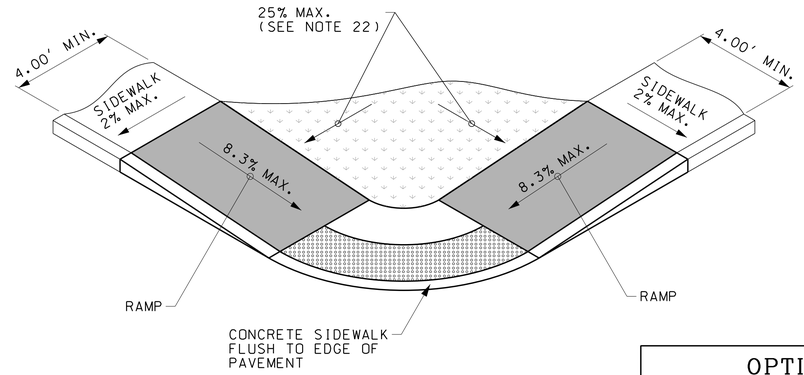


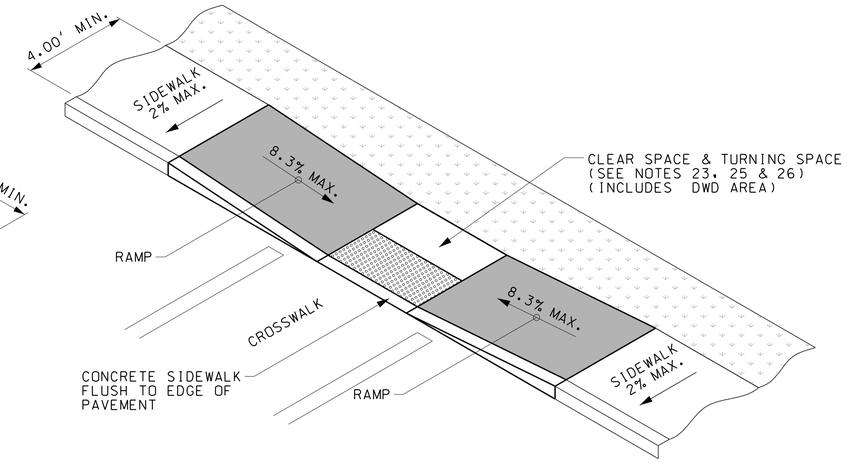
OPTION B
GRADED EARTH



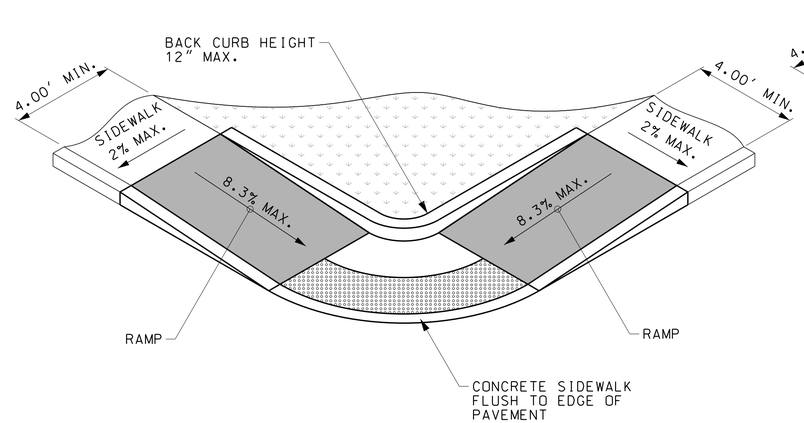
OPTION C
UNCURBED INTERSECTION

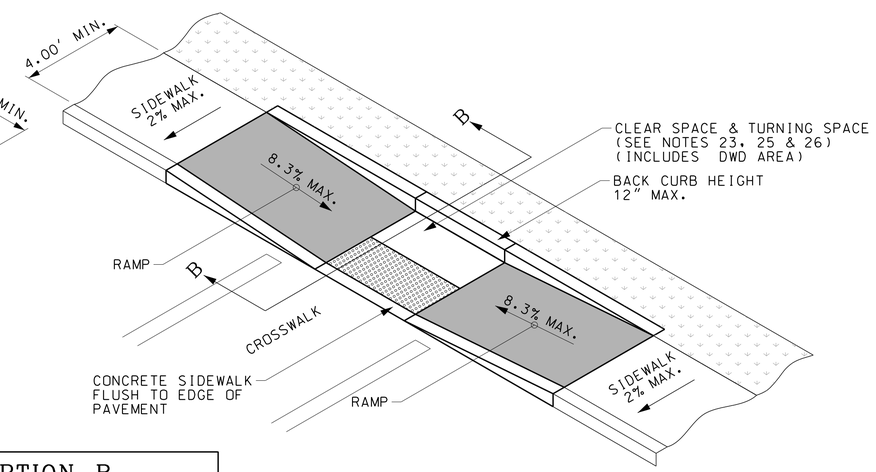
RAMP SIDE CONFIGURATIONS





OPTION A
GRADED EARTH AND TURF





OPTION B
BACK CURB

RAMP BACK TREATMENTS

NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

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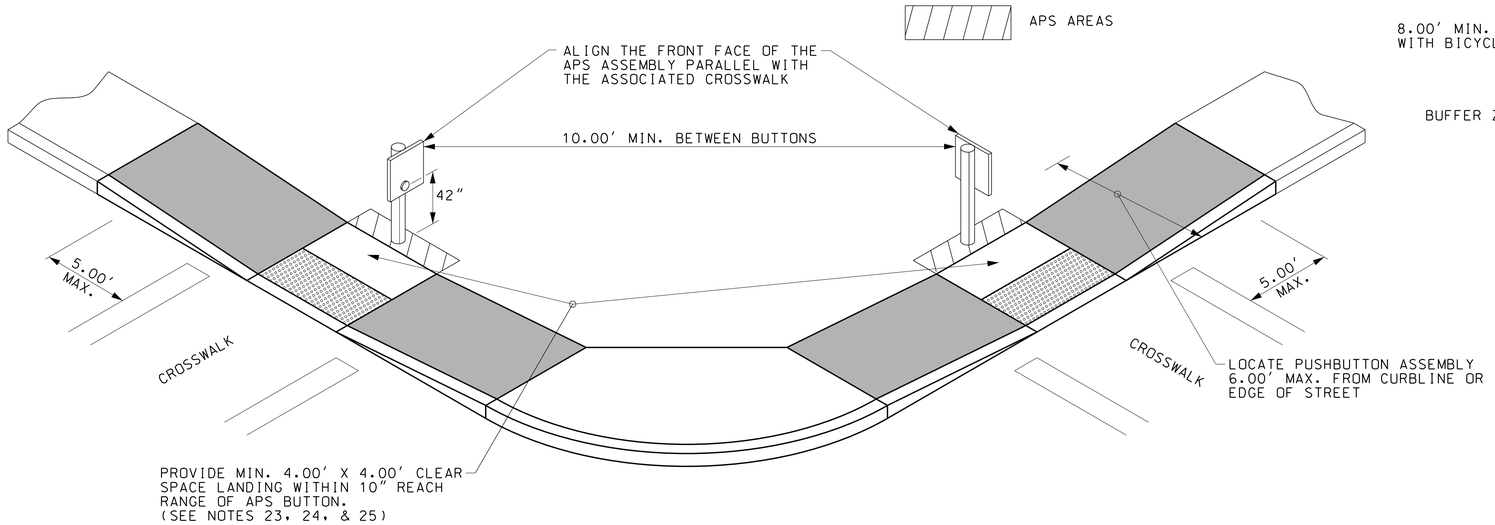
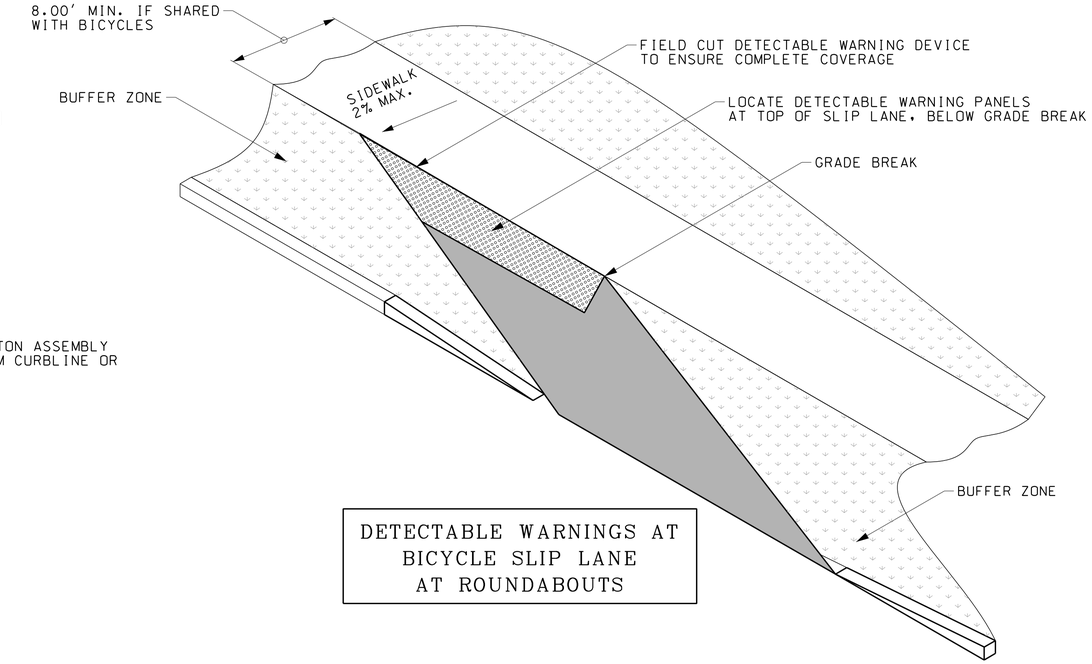
SIDEWALK CURB RAMP DETAILS (SHEET 7 OF 9)

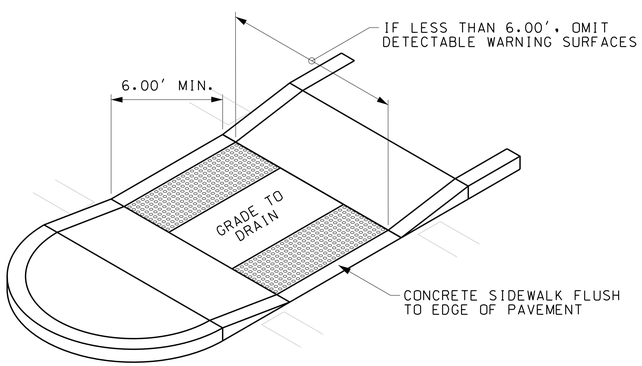
REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-7	crb_ramp_1-9	_	7	9



ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON LOCATION

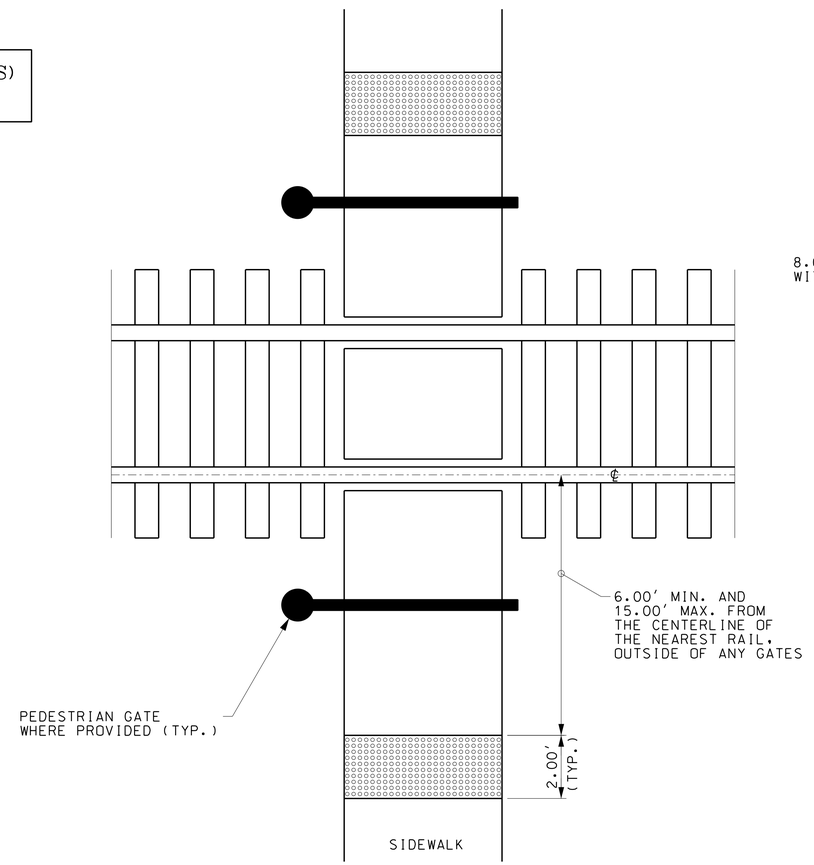


DETECTABLE WARNINGS AT BICYCLE SLIP LANE AT ROUNDABOUTS

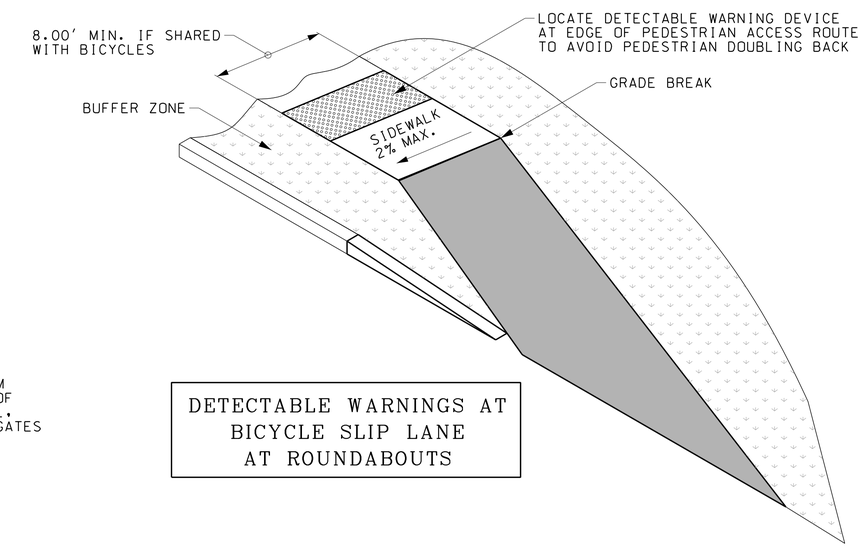


DETECTABLE WARNINGS AT PEDESTRIAN REFUGE ISLANDS

NON-ELEVATED CROSSING



DETECTABLE WARNINGS AT RAILROAD CROSSING



DETECTABLE WARNINGS AT BICYCLE SLIP LANE AT ROUNDABOUTS

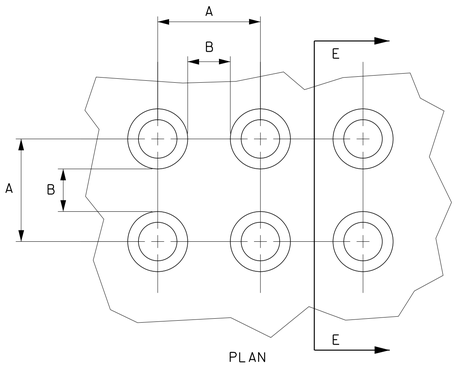
NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

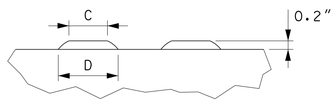
STATE OF NEW HAMPSHIRE
SPECIAL DETAILS
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

SIDEWALK CURB RAMP DETAILS (SHEET 8 OF 9)

REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-8	crb_ramp_1-9	_	8	9

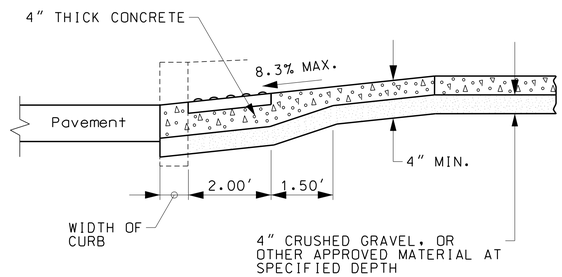


TRUNCATED DOME DIMENSIONS		
DIM.	MIN. (IN)	MAX. (IN)
A	1.6"	2.4"
B	0.65"	1.5"
C	50% - 65% OF D DIM.	
D	0.9"	1.4"



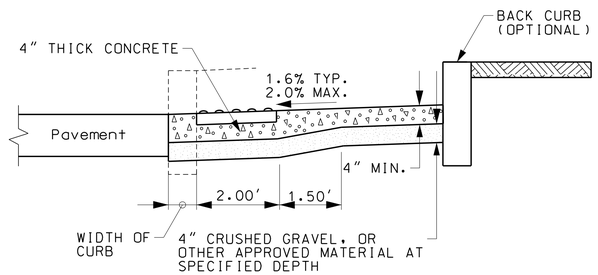
SECTION E-E

DETECTABLE WARNING DEVICES (DWD)
TRUNCATED DOME DETAILS



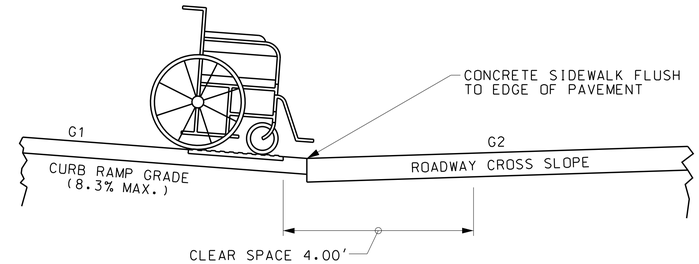
SECTION A-A

SEE SHEET 7 OF 9



SECTION B-B

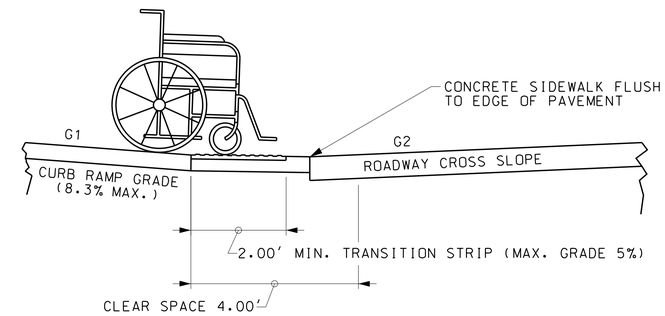
SEE SHEET 7 OF 9



COUNTER SLOPE CONDITION 1

A = G2 - G1

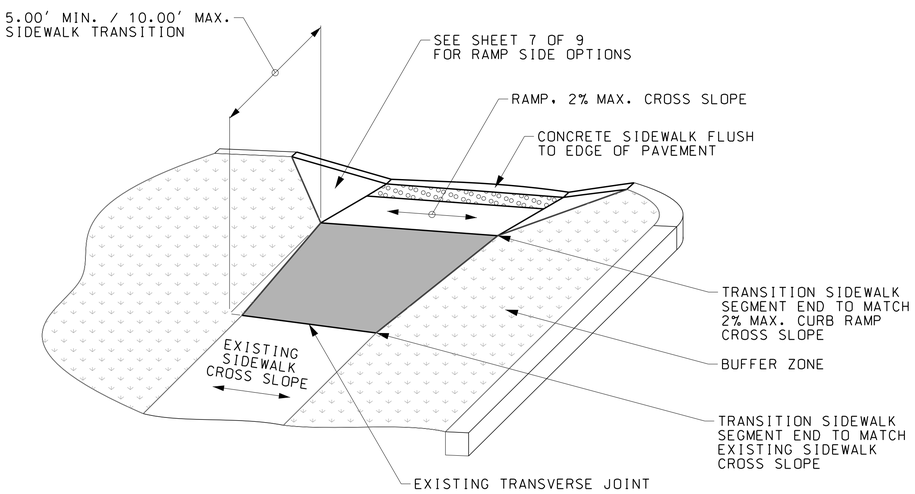
ALGEBRAIC DIFFERENCE (A) BETWEEN ROADWAY CROSS SLOPE AND CURB RAMP GRADE IS LESS THAN 13.3%.



COUNTER SLOPE CONDITION 2

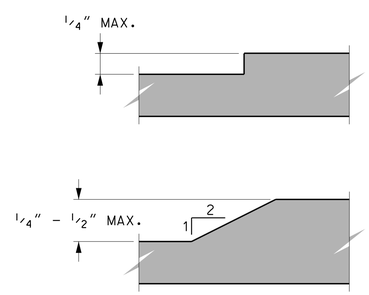
A = G2 - G1

ALGEBRAIC DIFFERENCE (A) BETWEEN ROADWAY SLOPE AND CURB RAMP GRADE IS GREATER THAN 13.3%. TRANSITION STRIP REQUIRED (MAX. GRADE 5%)



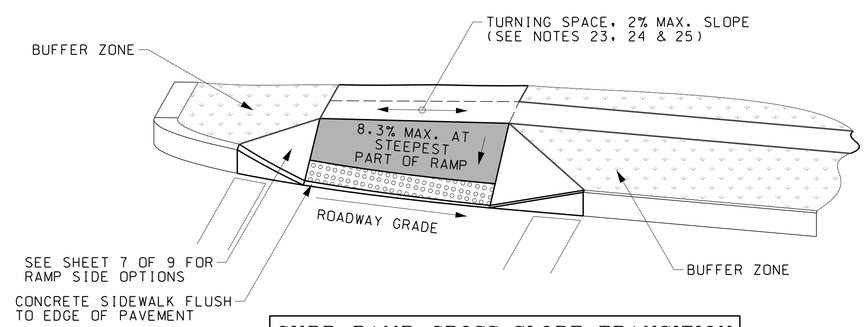
TRANSITION BETWEEN CURB RAMP AND EXISTING SIDEWALK

USE FOR CROSS SLOPE AND WIDTH TRANSITIONS



VERTICAL SURFACE DISCONTINUITIES

SEE NOTE 5



CURB RAMP CROSS SLOPE TRANSITION

REFER TO NOTE 20 FOR CROSS SLOPE REQUIREMENTS

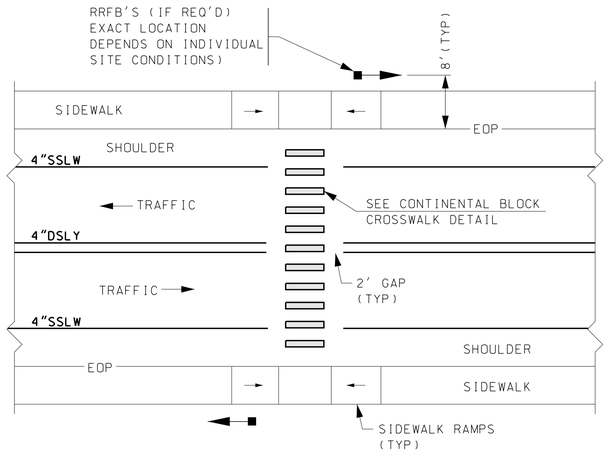
NOTE:

ALL NOTES REFERENCED ON THIS SHEET CAN BE FOUND ON SIDEWALK CURB RAMP DETAILS, SHEET 1 OF 9.

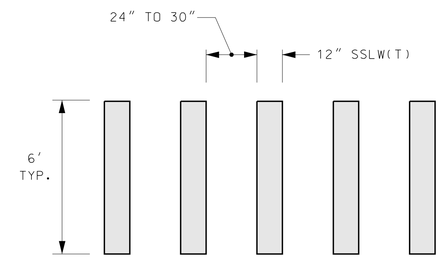
STATE OF NEW HAMPSHIRE
SPECIAL DETAILS
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

SIDEWALK CURB RAMP DETAILS (SHEET 9 OF 9)

REVISION DATE	MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
6-18-18	Curb-Ramp-9	crb_ramp_1-9	_	9	9



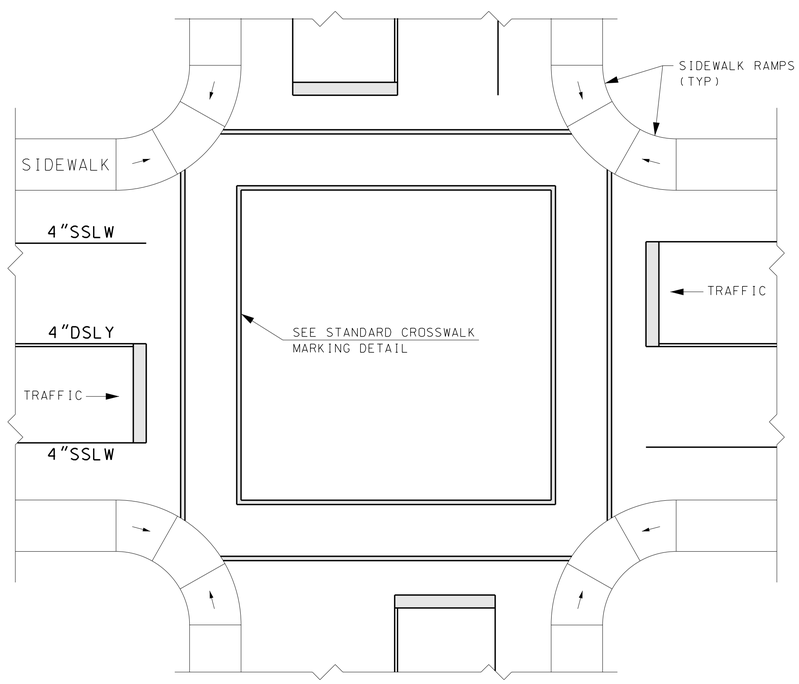
CONTINENTAL BLOCK CROSSWALK MARKING FOR A MID-BLOCK OR NON-STOP CONDITION



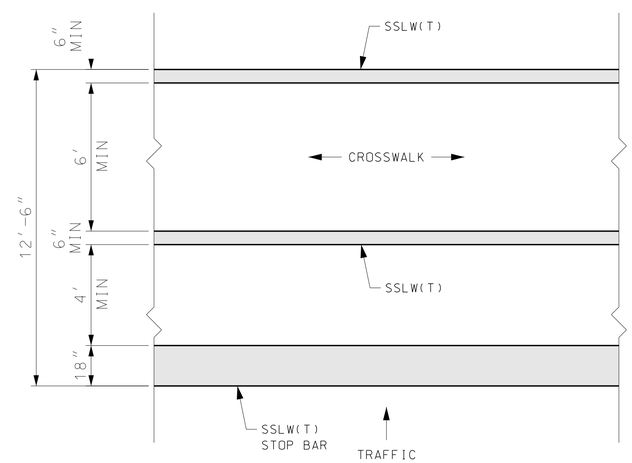
CONTINENTAL BLOCK MARKING DETAIL

GENERAL NOTES

1. STOP LINES ARE 18" WIDE SSLW(T).
2. TRANSVERSE CROSSWALK LINES SHALL BE THERMOPLASTIC, NOT LESS THAN 6" WIDE AND NOT LESS THAN 6' APART.
3. SPACING FOR THE CONTINENTAL BLOCK MARKINGS SHALL BE UNIFORM FOR EACH INDIVIDUAL CROSSWALK BUT CAN BE MODIFIED FOR ONE CROSSWALK TO THE NEXT TO ELIMINATE A CROSSWALK MARKING DIRECTLY IN THE WHEELPATH.
4. CROSSWALKS LOCATED AT A YIELD CONTROLLED SLIP RAMP SHALL USE CONTINENTIAL BLOCK MARKINGS.

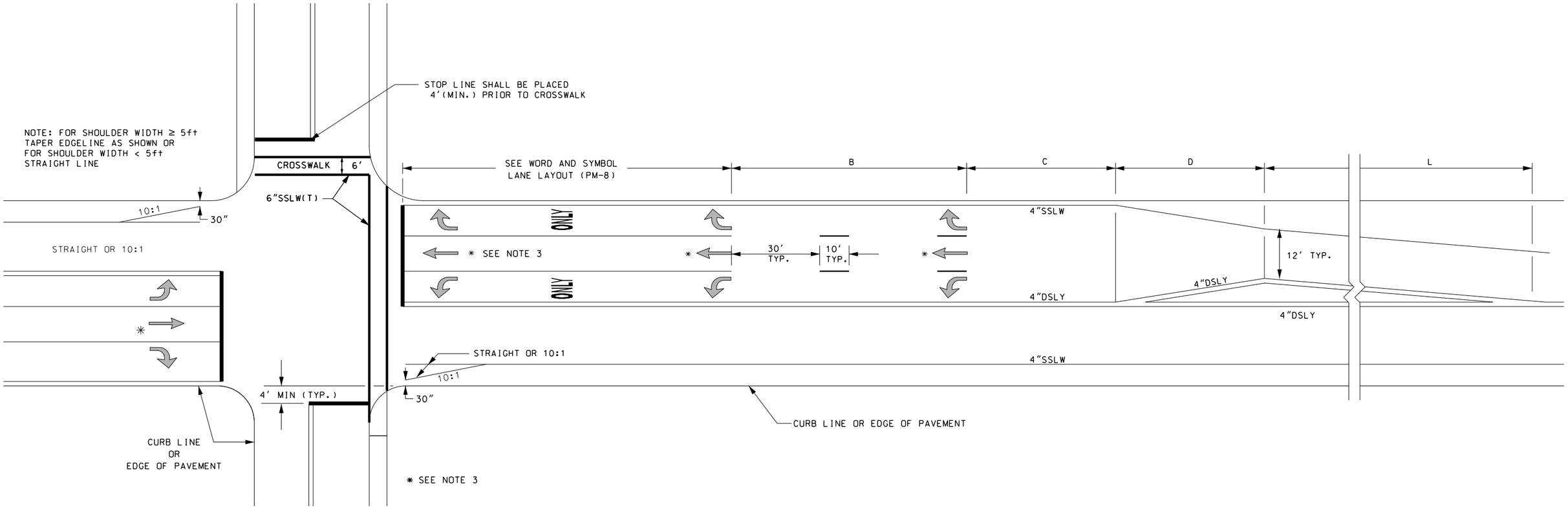


STANDARD CROSSWALK MARKING FOR A STOP OR SIGNAL CONDITION



STANDARD CROSSWALK MARKING DETAIL

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF TRAFFIC			
PEDESTRIAN CROSSINGS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS



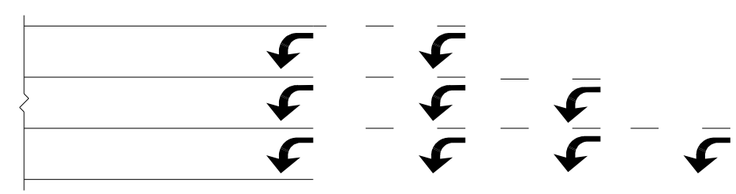
GENERAL NOTES

1. PAINTED EDGELINE REQUIRED ON CURBED SHOULDERS GREATER THAN 24".
2. STOP LINES ARE 18" WIDE SSLW(T).
3. STRAIGHT THROUGH ARROWS NOT TYPICALLY REQUIRED. SEE THE PAVEMENT MARKING PLANS FOR THE APPROPRIATE LAYOUT.
4. TRANSVERSE CROSSWALK LINES SHALL BE THERMOPLASTIC. NOT LESS THAN 6" WIDE AND NOT LESS THAN 6' APART.
5. DIMENSION L CALCULATED BASED ON MUTCD TRANSITION TAPER FORMULAS.
6. ALL SEGMENTS A THRU L ARE REQUIRED TO ESTABLISH TURN LANES.
7. LANE USE SIGNS (R3-8 SERIES) TO BE PLACED AT UPSTREAM LEGEND ARROW. ADDITIONAL SIGNS MAY BE REQUIRED FOR DOWNSTREAM GEOMETRIC CHANGES.

POSTED SPEED (mph)	TYPICAL 'B' LAYOUT			C (ft)	D (ft)	L* (ft)
	BROKEN LINES(#)	ARROWS (#)	LENGTH(ft)			
30	0	0	0	85	75	$L=WS^2/60$
35	0	0	0	140	75	$L=WS^2/60$
40	2	1	80	120	75	$L=WS^2/60$
45	2	1	80	170	100	L=WS
50	4	2	160	165	100	L=WS
55	6	3	240	175	100	L=WS

* 100' (MIN.) IS REQUIRED IN URBAN AREAS AND 200' (MIN.) IS REQUIRED IN RURAL AREAS.
W IS THE WIDTH OF PFFSET, IN FEET.
S IS THE HIGHER OF THE POSTED OR STATUTORY SPEED LIMIT, IN MILES PER HOUR.
WHERE OBSERVED SPEEDS EXCEED POSTED OR STATUTORY SPEED LIMITS, LONGER TAPERS SHOULD BE USED.
WHERE OFFSETS ARE DIFFERENT ON EITHER SIDE OF CENTERLINE, THE LONGER MEASUREMENT SHALL GOVERN THE LENGTH THE LENGTH OF BOTH TAPERS.

BROKEN LINE/ARROW LAYOUT

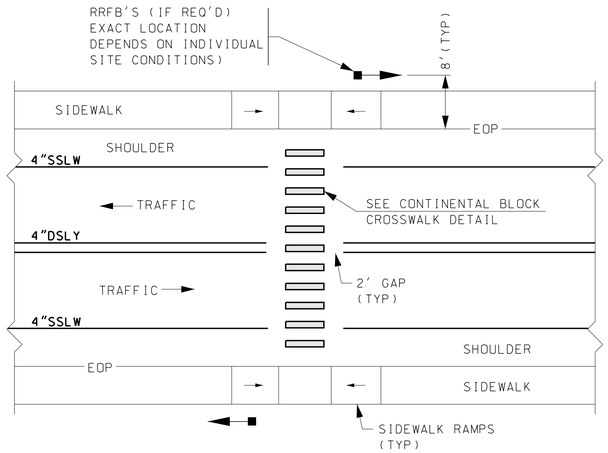


STATE OF NEW HAMPSHIRE

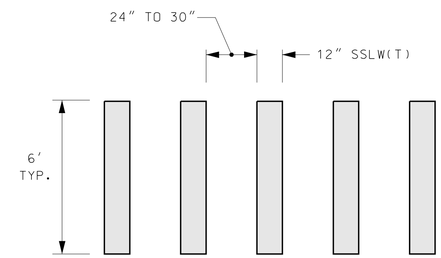
DEPARTMENT OF TRANSPORTATION • BUREAU OF TRAFFIC

INTERSECTION DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS



CONTINENTAL BLOCK CROSSWALK MARKING FOR A MID-BLOCK OR NON-STOP CONDITION



CONTINENTAL BLOCK MARKING DETAIL

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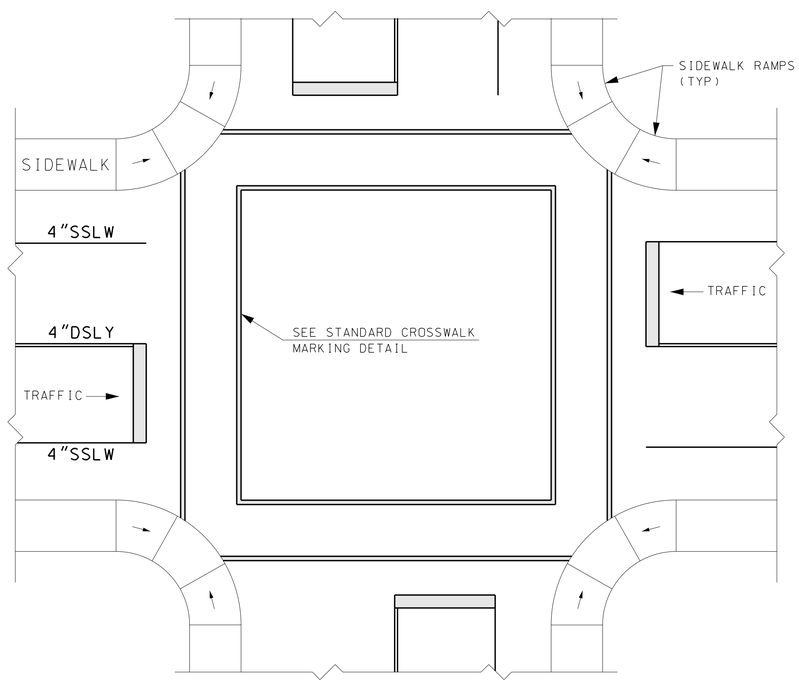

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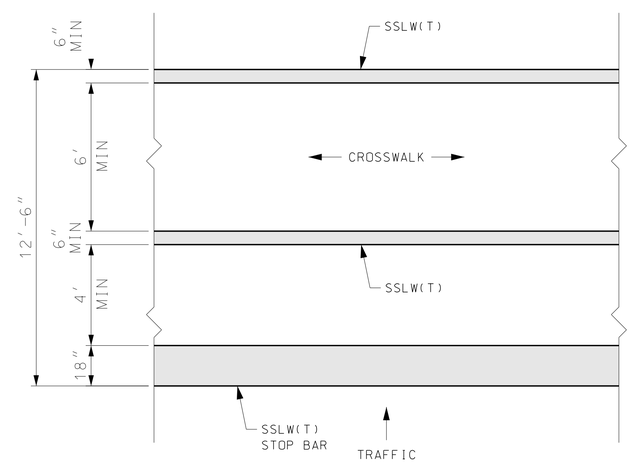
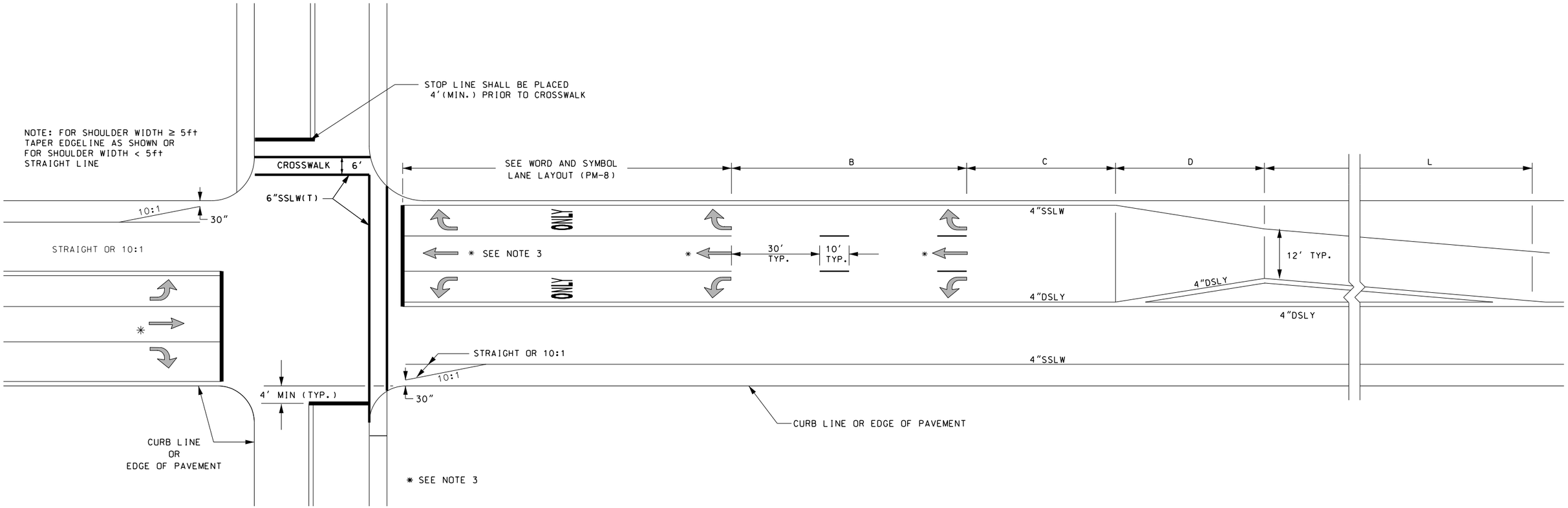


STANDARD CROSSWALK MARKING DETAIL

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF TRAFFIC			
PEDESTRIAN CROSSINGS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS



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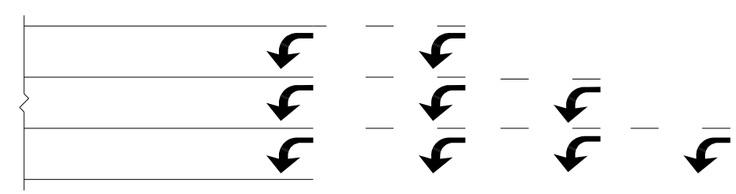
BROKEN LINE/ARROW LAYOUT



STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF TRAFFIC

INTERSECTION DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS