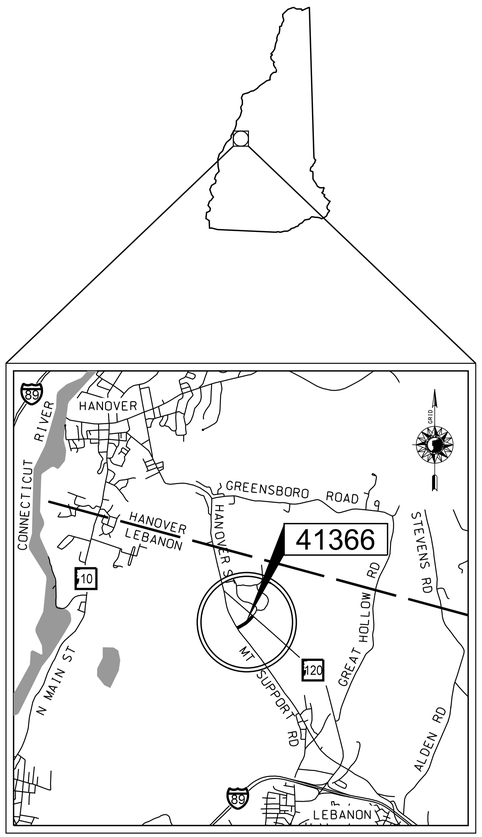
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

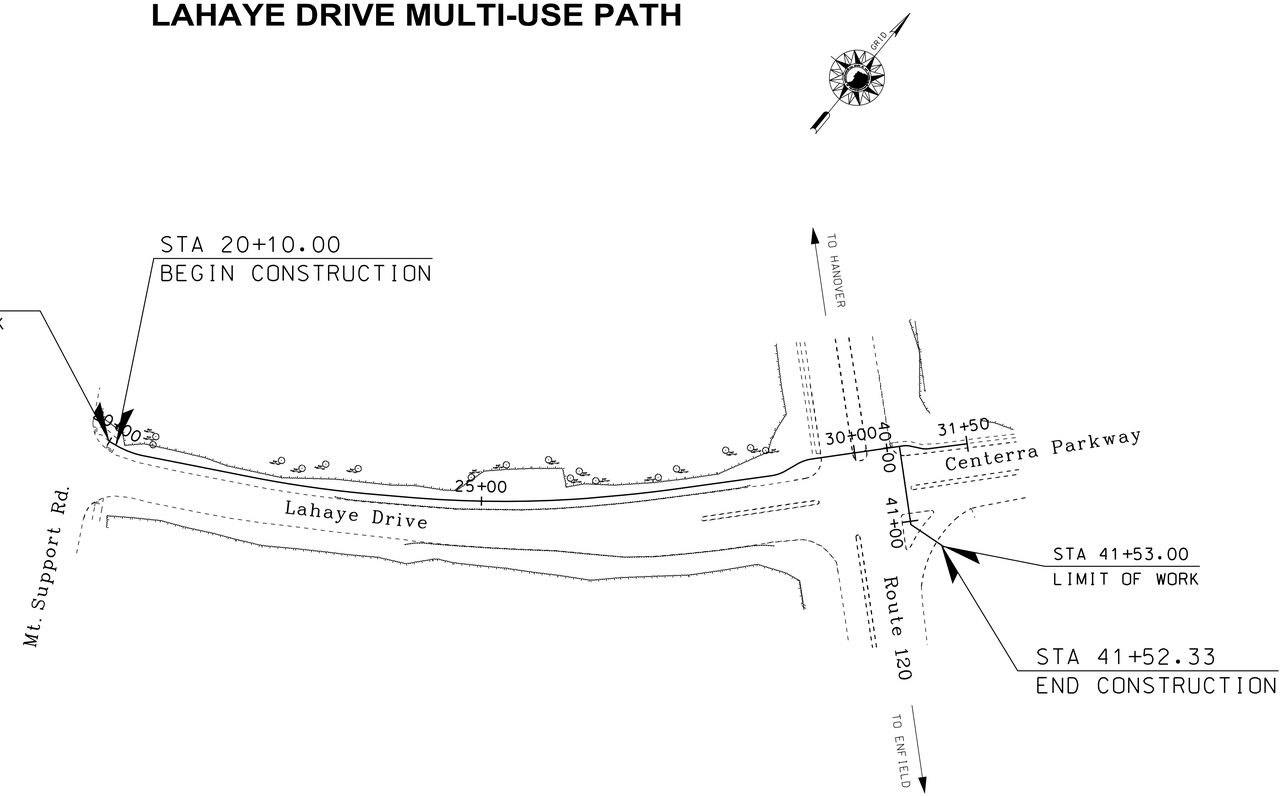
FHWA PROJECT NO. X-A004(617)
NH PROJECT NO. 41366
LAHAYE DRIVE MULTI-USE PATH



LOCATION MAP

1 ½ 0 1 2 mi.

GRAPHIC SCALE



PRELIMINARY PLANS
REVIEW SUBMISSION
SUBJECT TO CHANGE
DATE 6/30/2021

NOT FOR CONSTRUCTION

CITY OF LEBANON
COUNTY OF GRAFTON
SCALE: 1" = 100'

DRAWN BY GMC	DATE 6/30/2021		
CHECKED BY JCH	DATE 6/30/2021		

DuBois & King inc.
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CITY OF LEBANON, NEW HAMPSHIRE

DuBOIS & KING PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
624260	41366	1	27

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	INDEX OF SHEETS AND GENERAL NOTES
3-4	STANDARD SYMBOLS
5	TYPICAL SECTION
6	SUMMARY OF QUANTITIES
7-9	GENERAL PLANS
10	PROFILE
11	SIGNALIZATION PLAN
12-24	CROSS SECTIONS
25-27	RIGHT-OF-WAY PLANS

GENERAL NOTES

1. FOR STANDARD PLANS, SEE "STANDARD PLANS FOR ROAD CONSTRUCTION" DATED 2010 (A BOUND BOOK).
2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
3. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.
4. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.
5. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
6. PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.
7. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).
8. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY SDR AND THE FIELD NOTES CAN BE FOUND IN THE FIELD BOOK(S) _____. COORDINATES ARE NEW HAMPSHIRE STATE PLANE COORDINATES OF NAD83, 1986 ADJUSTMENT AND THE BEARINGS ARE GRID. ELEVATIONS ARE REFERENCED TO NGVD 1929.
9. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:

1			4	5	6	7		9			

NOT FOR CONSTRUCTION

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED	GMC	DATE 6/30/2021
NEW DESIGN	JCH	DATE 6/30/2021
SHEET CHECKED		DATE
AS BUILT DETAILS		DATE

CITY OF LEBANON, NEW HAMPSHIRE

INDEX OF SHEETS AND GENERAL NOTES

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-14	index_sheet	41366	2	27

DuBois & King inc.

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY

TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed) — (label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon

WELL

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft — (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — s

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW

ORDINARY HIGH WATER — OHW

TOP OF BANK — TOB

TOP OF BANK & ORDINARY HIGH WATER — TOBOHW

NORMAL HIGH WATER — NHW

WIDTH AT BANK FULL — WBF

PRIME WETLAND — PWET

PRIME WETLAND 100' BUFFER — PWET100

NON-JURISDICTIONAL DRAINAGE AREA — NJDA

COWARDIN DISTINCTION LINE — CDL

TIDAL BUFFER ZONE — TBZ

DEVELOPED TIDAL BUFFER ZONE — DTBZ

HIGHEST OBSERVABLE TIDE LINE — HOTL

MEAN HIGH WATER — MHW

MEAN LOW WATER — MLW

VERNAL POOL — VP

SPECIAL AQUATIC SITE — SAS

REFERENCE LINE — REF

WATER FRONT BUFFER — WB50

NATURAL WOODLAND BUFFER — NWB150

PROTECTED SHORELAND — PS250

INVASIVE SPECIES LABEL — I.S. I — I.S. II

INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500

100 YEAR FLOODPLAIN BOUNDARY — FP100

FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 31 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE — CLEARING LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:

ORIGINAL GROUND ELEVATION (LEFT) — 72.5

FINISHED GRADE ELEVATION (RIGHT) — 79.14

SHEET 1 OF 2

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

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsymb1_2	41366	3	27

DRAINAGE

MANHOLE — d
CATCH BASIN — cb
DROP INLET — di
(existing) (PROPOSED)

DRAINAGE PIPE (existing)
DRAINAGE PIPE (PROPOSED)
(label size & type)

UNDERDRAIN (existing) W/ FLUSHING BASIN
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN
show direction of flow
fb
(label size & type)

HEADER (existing & PROPOSED)
(with stone outlet protection)

END SECTION (existing & PROPOSED)
METAL or PLASTIC
RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE (label type)
RR RIGHT-OF-WAY LINE
PROPERTY LINE
PROPERTY LINE (COMMON OWNER) Z
TOWN LINE — BOW / CONCORD
COUNTY LINE — COOS / GRAFTON
STATE LINE — MAINE / NEW HAMPSHIRE
NATIONAL FOREST
CONSERVATION LAND LC
BENCH MARK / SURVEY DISK
BOUND — bnd (PROPOSED)
STATE LINE/ TOWN LINE MONUMENT — S/L T/L
NHDOT PROJECT MARKER
IRON PIPE OR PIN — ip
DRILL HOLE IN ROCK — dh
TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±
PROPERTY PARCEL NUMBER — 12
HISTORIC PROPERTY — H

UTILITIES

existing PROPOSED

TELEPHONE POLE
POWER POLE
JOINT OCCUPANCY
MISCELLANEOUS/UNKNOWN POLE
GUY POLE OR PUSH BRACE
(plot point at face not center of symbol)

LIGHT POLE
LIGHT ON POWER POLE
LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.:
R L P+04 25.0' T+04 25.0'

RAILROAD (label ownership)
RAILROAD SIGN
RAILROAD SIGNAL
UTILITY JUNCTION BOX — jb JB
OVERHEAD WIRE — OW (label type)

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W PW
SEWER — S PS
TELEPHONE — T PT
ELECTRIC — E PE
GAS — G PG
LIGHTING — L PL
INTELLIGENT TRANSPORTATION SYSTEM — ITS
FIBER OPTIC — FO PFO
WATER SHUT OFF — WSO
GAS SHUT OFF — GSO
HYDRANT — hyd HYD

MANHOLES
SEWER — MHS
TELEPHONE — MHT
ELECTRICAL — MHE
GAS — MHG
UNKNOWN

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER
OPTICOM STROBE
TRAFFIC SIGNAL
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT
SIGNAL CONDUIT — C PC
CONTROLLER CABINET — cc CC
METER PEDESTAL — mp MP
PULL BOX — pb PB
LOOP DETECTOR (QUADRUPOLE) — (label size)
LOOP DETECTOR (RECTANGULAR) — (label size)
CAMERA POLE (CCTV)
FIBER OPTIC DELINEATOR — fod FOD
FIBER OPTIC SPLICE VAULT — SVF
ITS EQUIPMENT CABINET — its ITS
VARIABLE SPEED LIMIT SIGN
DYNAMIC MESSAGE SIGN
ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

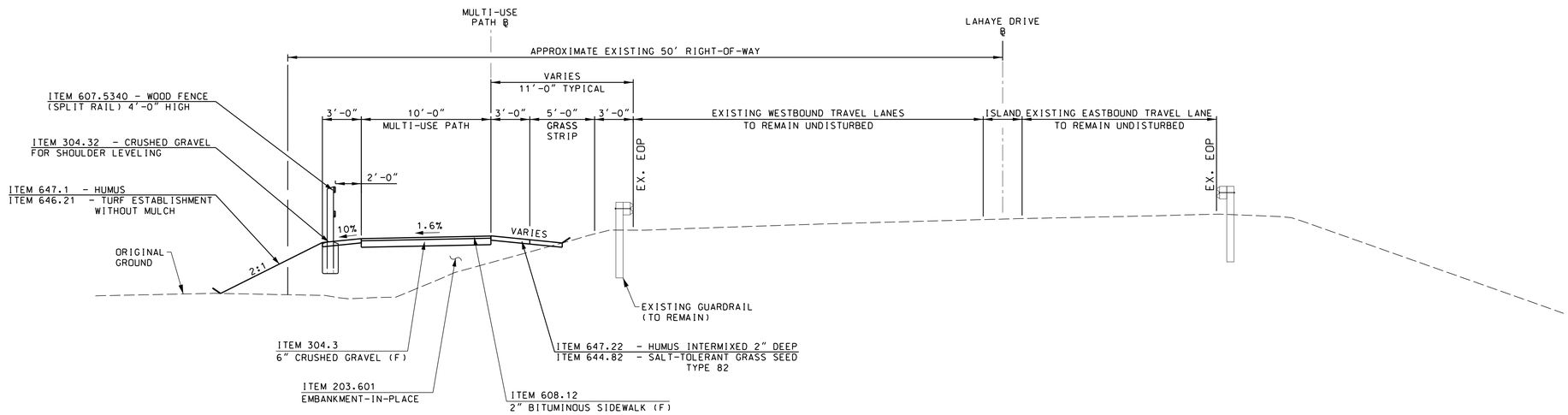
CURB MARK NUMBER - BITUMINOUS — B-1
CURB MARK NUMBER - GRANITE — G-1
CLEARING AND GRUBBING AREA — A
DRAINAGE NOTE — 1
EROSION CONTROL NOTE — A
FENCING NOTE — A
GUARDRAIL NOTE — 1
ITS NOTE — 1
LIGHTING NOTE — A
TRAFFIC SIGNAL NOTE — 1

SHEET 2 OF 2

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

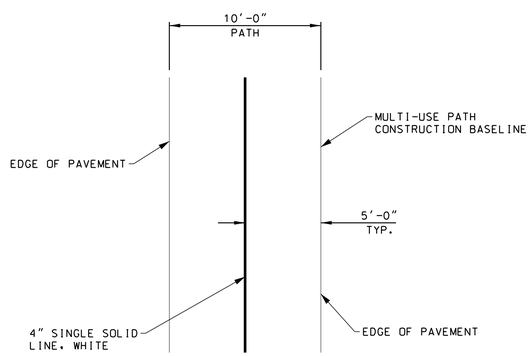
STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	stdsymb1_2	41366	4	27



LAHAYE DRIVE
10' MULTI-USE PATH

STA 20+10.00 TO STA 29+45.00
1" = 5'-0"



PAVEMENT MARKING DETAIL

NOT TO SCALE

NOTES:

1. SEE GENERAL PLANS FOR PAVEMENT STRIPE LOCATION.

NUMBER	DATE	STATION	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED		DATE	
NEW DESIGN	GMC	DATE	6/30/2021
SHEET CHECKED	JCH	DATE	6/30/2021
AS BUILT DETAILS		DATE	

NOT FOR CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE

TYPICAL SECTION

DuBois & King INC.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366typ	41366	5	27

SURFACING MATERIALS

ITEM NO.	304.3	304.32	403.12	608.12	608.24	608.26	608.54
ITEM DESCRIPTION	CRUSHED GRAVEL (F)	CRUSHED GRAVEL FOR SHOULDER LEVELING	HOT BITUMINOUS PAVEMENT, HAND METHOD	2" BITUMINOUS SIDEWALK (F)	4" CONCRETE SIDEWALK	6" CONCRETE SIDEWALK	DETECTABLE WARNING DEVICES, COMPOSITE
UNIT	CY	CY	TON	SY	SY	SY	SY
LOCATION							
LAHAYE DRIVE	196	26		1072	56	34	9
NH ROUTE 120 / CENTERRA PARK			4		48		7
SUBTOTAL	196	26	3.5	1072	104	34	16
ROUNDING	4	4	0.5	8	6	1	4
TOTAL	200	30	4	1080	110	35	20

TRAFFIC SIGNALS AND CONDUIT

ITEM NO.	614.511	614.73114	616.101		616.191	
ITEM DESCRIPTION	CONCRETE PULL BOX 14"	3" PVC CONDUIT, SCHEDULE 40	INSTALL TYPE 2 FOUNDATION	INSTALL LOOP DETECTOR	ALTERATIONS TO TRAFFIC SIGNALS	REMARKS
UNIT	EA	LF	U		U	
LOCATION						
NH ROUTE 120 / CENTERRA PKWY	1	36	1	1	1	
SUBTOTAL	1	36	1	1	1	
ROUNDING		14				
TOTAL	1	50	1	1	1	

ENVIRONMENTAL PROTECTION AND EROSION CONTROL

ITEM NO.	644.82	645.512	645.531	645.7	645.71	646.21	647.1	647.22
ITEM DESCRIPTION	SALT TOLERANT GRASS SEED TYPE 82	COMPOST SOCK FOR PERIMETER BERM	SILT FENCE	STORM WATER POLLUTION PREVENTION PLAN	MONITORING SWPPP AND EROSION AND SEDIMENT CONTROLS	TURF ESTABLISHMENT WITHOUT MULCH	HUMUS	HUMUS INTERMIXED, 2" DEEP
UNIT	LB	LF	LF	U	HR	AC	CY	CY
LOCATION								
LAHAYE DRIVE	11.7	1900	950	1	70	0.20	108	33
SUBTOTAL	11.7	1900	950	1	70	0.20	108	33
ROUNDING	0.3	100	50			0.05	2	2
TOTAL	12	2000	1000	1	70	0.25	110	35

DRAINAGE SUMMARY

ITEM NO.	DESCRIPTION	UNIT	TOTAL
570.4	Mortar Rubble Masonry	CY	10
585.2	Stone Fill, Class B	CY	15
593.411	Geotextile; Permanent Erosion Control CL.1, Non-Woven	SY	40
603.0023	30" R.C. Pipe, 2000D	LF	30
603.11236	36" Corr. Steel Pipe, .079"	LF	20
603.33215	15" Corr. Poly. Pipe End Section	EA	2
603.88215	15" PE Pipe (Type S)	LF	50
604.124	Catch Basins Type B, 4FT. Diameter	EA	1
604.19	Special Catch Basins, Double Grate	EA	1

SIGNING

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
615.034	RELOCATING TRAFFIC SIGN TYPE C	U	8

CURBING

ITEM NO.			609.5
ITEM DESCRIPTION	MARK NUMBER	RADIUS	RESET GRANITE CURB
UNIT			LF
LOCATION			
NH ROUTE 120			
	G-1		17
	G-2		17
	G-3		17
	G-4		17
CENTERRA PARKWAY			
	G-5		24
	G-6		9
	G-7		22
	G-8		29
	G-9		26
SUBTOTAL			178
ROUNDING			22
TOTAL			200

INCIDENTAL ITEMS

ITEM NO.	DESCRIPTION	UNIT	TOTAL
214.	Fine Grading	U	2
619.1	Maintenance of Traffic	U	2
692	Mobilization	U	1
699	Miscellaneous Temporary Erosion Control	$	5000

FENCING

REF. NO.	ITEM NO.	607.350
	ITEM DESCRIPTION	WOOD FENCE (SPLIT RAIL) 4'-0" HIGH
	UNIT	LF
	LOCATION	
A	STA 20+00 TO STA 22+15 LT	215
B	STA 22+35 TO STA 24+40 LT	205
C	STA 24+60 TO STA 26+65 LT	205
D	STA 26+85 TO STA 29+00 LT	215
	SUBTOTAL	840
	ROUNDING	10
	TOTAL	850

CLEARING AND GRUBBING

ITEM NO.		201.1
ITEM DESCRIPTION		CLEARING AND GRUBBING (F)
UNIT		AC
LOCATION	DESIGNATED AREA	
LAHAYE DRIVE		
STA. 20+08.0 TO 24+92.0 LT	A	0.14
STA. 26+10.0 TO 28+66.0 LT	B	0.11
SUBTOTAL		0.24
		0.06
TOTAL		0.30

EARTHWORK SUMMARY

	DESCRIPTION	QUANTITY	UNITS
		Preliminary	
1	Common Excavation in Sections, Including Pavement	78.6	CY
2	Common Excavation NOT in Sections	0.0	CY
3	Common Excavation for Riprap Aprons	10.0	CY
4	Drive and Approach Excavation	0.0	CY
5	Topsoil Removed Beneath Fill Sections	161.1	CY
6	Unsuitable Material Removed Beneath Fill Sections	0.0	CY
7	Total Common Excavation	249.7	CY
	ROUNDING	0.3	CY
	COMMON EXCAVATION FOR ESTIMATE ITEM 203.1	**250**	**CY**
	**********		
8	Muck Excavation (See Item 203.4)	163.6	CY
	ROUNDING	6.4	CY
	MUCK EXCAVATION FOR ESTIMATE ITEM 203.4	**170**	**CY**
	**********		
9	Rock Excavation in Sections (Solid)	0.0	CY
10	Rock Excavation for Wetland Creation (Solid)	0.0	CY
11	Boulders in Sections (1 x ____%)	2.5	CY
12	Boulders in Common Excavation for Wetland Creation (3 X ____%)	0.0	CY
13	Drive and Approach Excavation (Solid Rock)	0.0	CY
14	Drive and Approach Excavation (Boulders) (4 X ____%)	0.0	CY
15	Rock Overbreakage	0.0	CY
16	Rock Not Covered by Sections (Surface Bldrs., Headers, Foundations, etc.)	0.0	CY
	ROUNDING	1.5	CY
	TOTAL ROCK EXCAVATION FOR ESTIMATE ITEM 203.2	**4.0**	**CY**
	**********		
17	Sections Fill	2518.0	CY
18	Topsoil Replacement	0.0	CY
19	Unsuitable Material Replacement	0.0	CY
20	Muck Replacement	0.0	CY
21	Drive and Approach Fill	0.0	CY
22	Embankment-In-Place Item 203.6	0.0	CY
	ROUNDING	82	CY
	EMBANKMENT-IN-PLACE (F) FOR ESTIMATE ITEM 203.6	**2600**	**CY**

PAVEMENT MARKINGS

ITEM NO.	632.0104	632.3106	632.3118	632.911	632.912
ITEM DESCRIPTION	RETRO-REFLECTIVE PAINT PAVEMENT MARKING, 4" LINE	RETRO-REFLECTIVE THERMO. PAVE. MARKING, 6" LINE	RETRO-REFLECTIVE THERMO PLASTIC PAVEMENT MARKING, 18" LINE	OBLITERATE PAVEMENT MARKING LINE, 12" WIDE & UNDER	OBLITERATE PAVEMENT MARKING LINE, OVER 12" WIDE
UNIT	LF	LF	LF	LF	LF
LOCATION					
LAHAYE DRIVE	915	489	83	523	76
SUBTOTAL	915	489	83	523	76
ROUNDING	5	1	7	7	4
TOTAL	920	490	90	530	80

SUBSIDIARY ITEMS

DESCRIPTION	QUANTITY
REMOVAL OF EXISTING DRAINAGE STRUCTURES (WHERE INDICATED ON THE PLANS)	
REMOVAL OF EROSION STONE	
SALVAGE OF MATERIALS	
ALL SAW CUTS OF BITUMINOUS PAVEMENT	

NOTE: THIS LIST OF SUBSIDIARY ITEMS SHOULD NOT BE CONSIDERED AS A COMPLETE LISTING OF SUBSIDIARY WORK PRESENT IN THE PROJECT. REFER TO PLANS, PROPOSAL, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.

MATERIALS SALVAGED TO CITY OF LEBANON, NH

EXISTING GRANITE CURB
EXISTING TRAFFIC SIGNAL EQUIPMENT

THIS INFORMATION IS FOR BIDDING PURPOSES ONLY

NOT FOR CONSTRUCTION

CITY OF LEBANON, NEW HAMPSHIRE

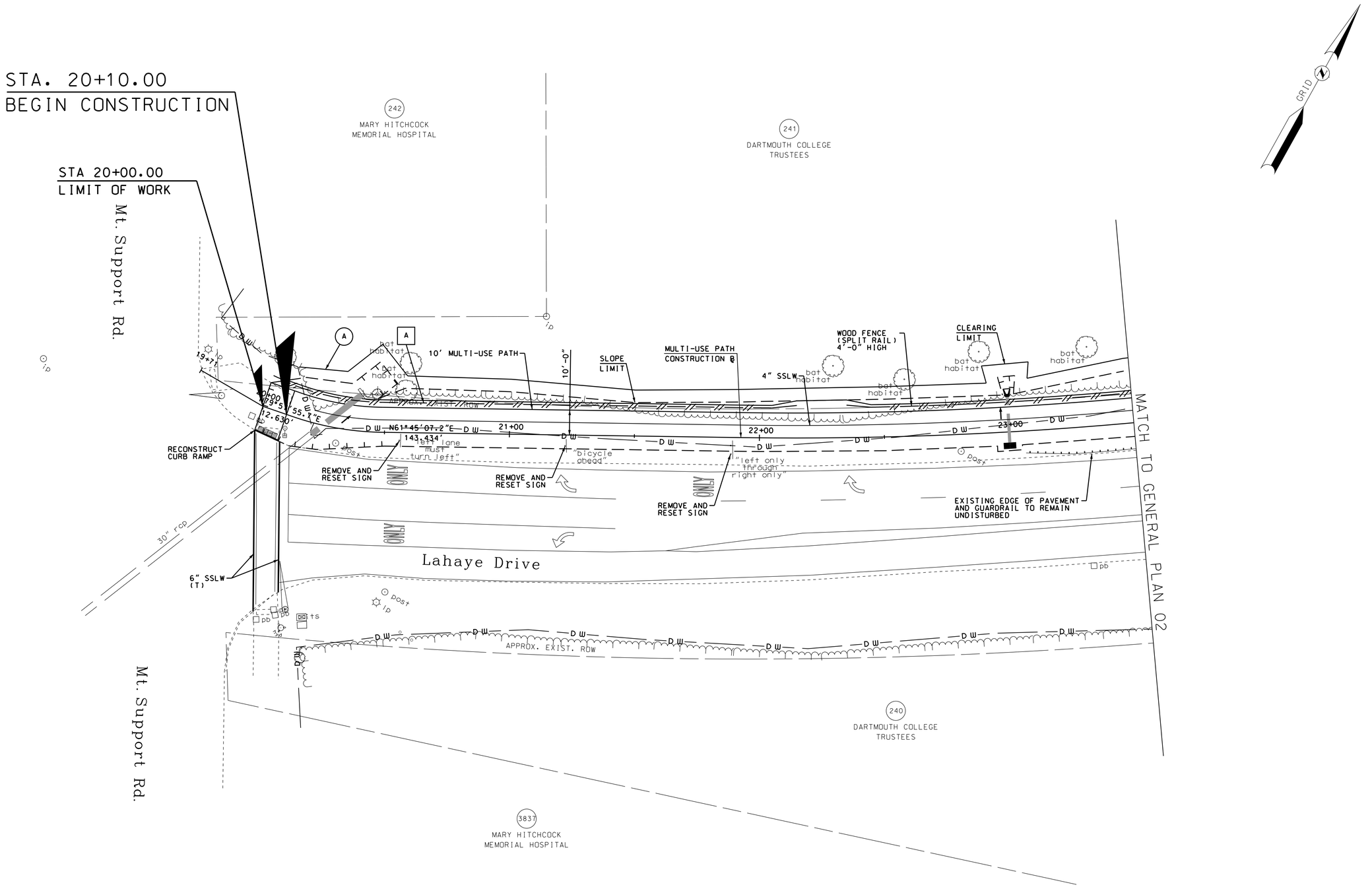
SUMMARY OF QUANTITIES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366sum	41366	6	27

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED GMC	DATE 6/30/2021	AS BUILT DETAILS	DATE
NEW DESIGN JCH	DATE 6/30/2021		
SHEET CHECKED	DATE		



20 0 20 40
SCALE IN FEET

DuBois & King inc.

CITY OF LEBANON, NEW HAMPSHIRE

GENERAL PLAN 01

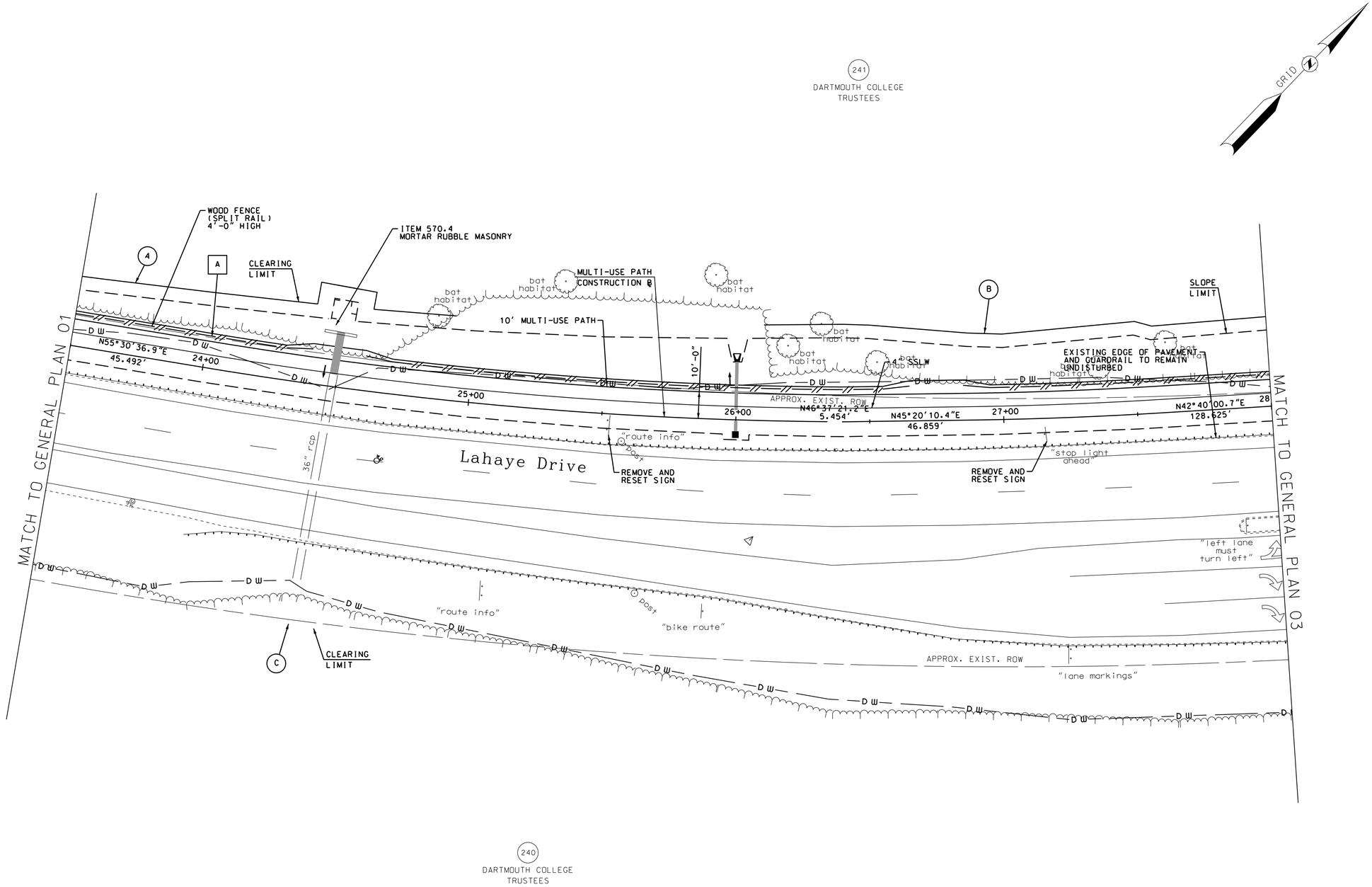
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
genplans	41366	7	27

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE



NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	DATE	
NEW DESIGN	DATE	
SHEET CHECKED	DATE	
AS BUILT DETAILS	DATE	

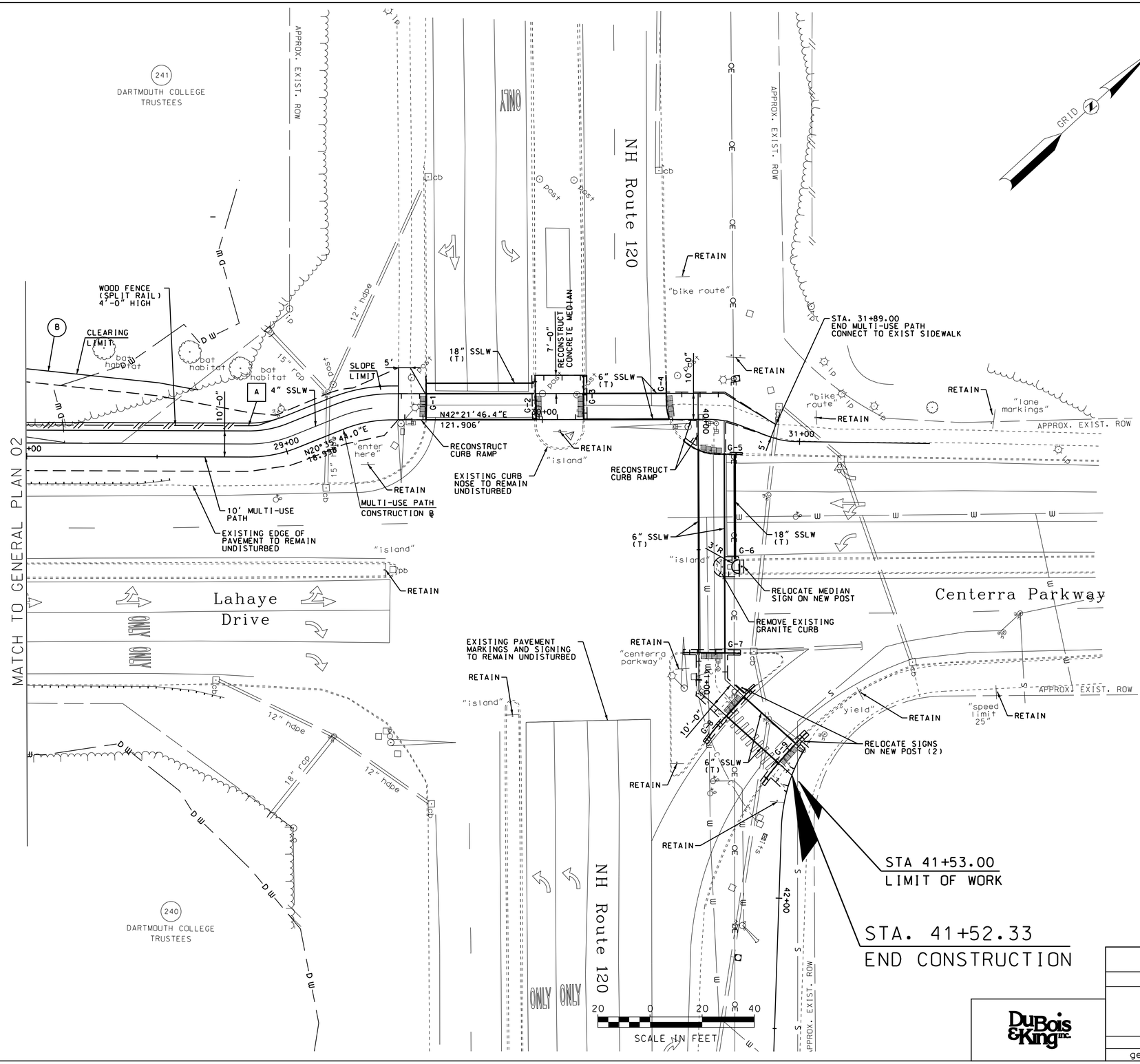
20 0 20 40
SCALE IN FEET

DuBois & King INC.

CITY OF LEBANON, NEW HAMPSHIRE

GENERAL PLAN 02

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
genplans	41366	8	27



CITY OF LEBANON, NEW HAMPSHIRE

GENERAL PLAN 03

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
genplans	41366	9	27

SDR PROCESSED	GMC	DATE 6/30/2021
NEW DESIGN	JCH	DATE 6/30/2021
SHEET CHECKED		DATE
AS BUILT DETAILS		DATE

REVISIONS AFTER PROPOSAL

STATION	NUMBER	DATE	STATION	DESCRIPTION

LAHAYE DRIVE
MULTI-USE PATH

SCALE:
1"= 50' HORIZ.
1"= 10' VERT.

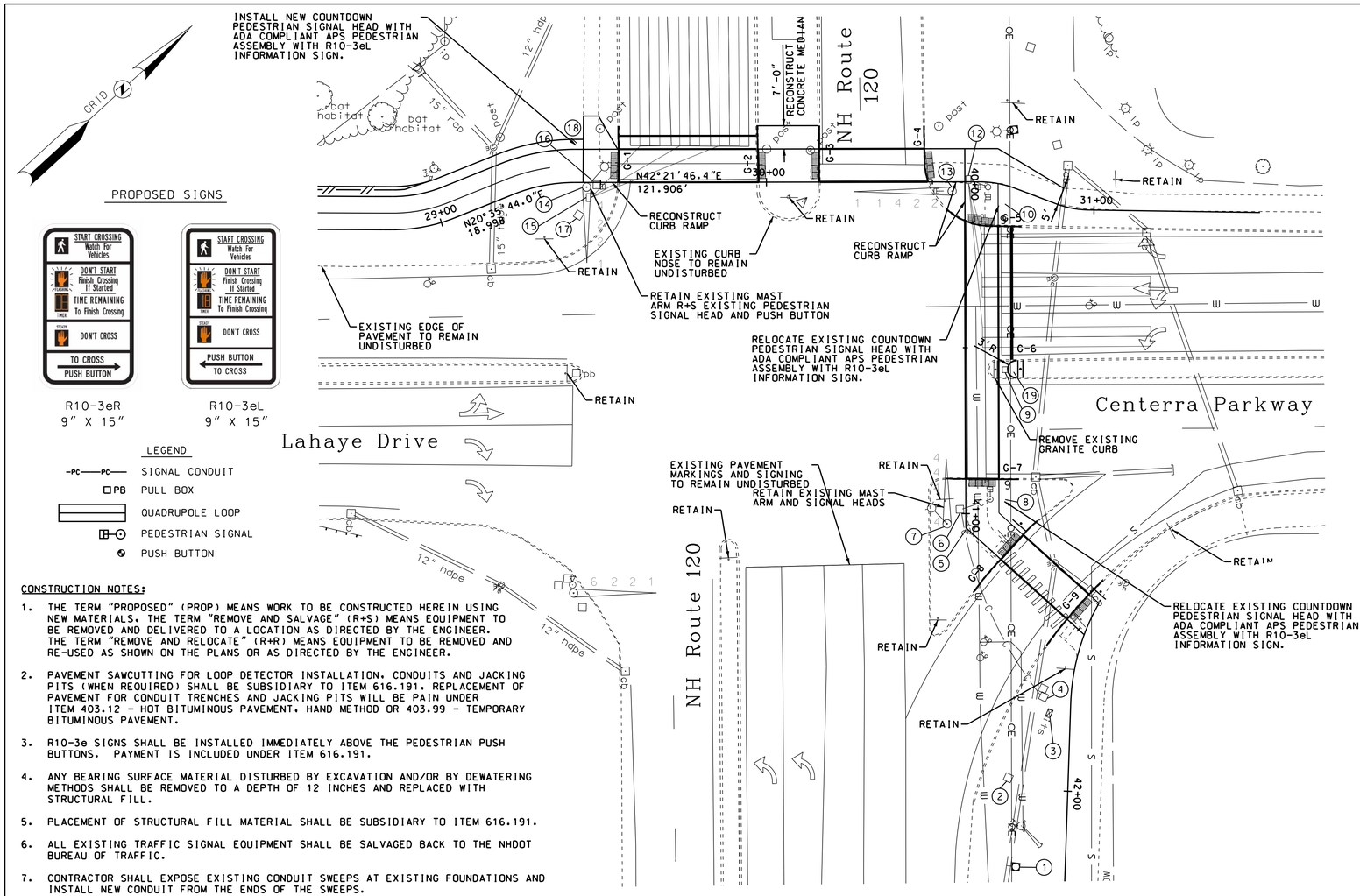
NOT FOR CONSTRUCTION

DuBois & King INC.

CITY OF LEBANON, NEW HAMPSHIRE

PROFILE

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Profile	41366	10	27



PROPOSED SIGNS

R10-3eR
9" X 15"

R10-3eL
9" X 15"

LEGEND

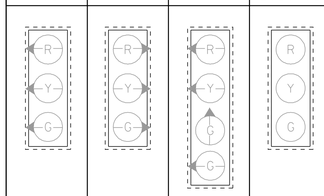
—PC——PC—	SIGNAL CONDUIT
□PB	PULL BOX
	QUADRUPOLE LOOP
	PEDESTRIAN SIGNAL
	PUSH BUTTON

CONSTRUCTION NOTES:

1. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED HEREIN USING NEW MATERIALS. THE TERM "REMOVE AND SALVAGE" (R+S) MEANS EQUIPMENT TO BE REMOVED AND DELIVERED TO A LOCATION AS DIRECTED BY THE ENGINEER. THE TERM "REMOVE AND RELOCATE" (R+R) MEANS EQUIPMENT TO BE REMOVED AND RE-USED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. PAVEMENT SAWCUTTING FOR LOOP DETECTOR INSTALLATION, CONDUITS AND JACKING PITS (WHEN REQUIRED) SHALL BE SUBSIDIARY TO ITEM 616.191. REPLACEMENT OF PAVEMENT FOR CONDUIT TRENCHES AND JACKING PITS WILL BE PAIN UNDER ITEM 403.12 - HOT BITUMINOUS PAVEMENT, HAND METHOD OR 403.99 - TEMPORARY BITUMINOUS PAVEMENT.
3. R10-3e SIGNS SHALL BE INSTALLED IMMEDIATELY ABOVE THE PEDESTRIAN PUSH BUTTONS. PAYMENT IS INCLUDED UNDER ITEM 616.191.
4. ANY BEARING SURFACE MATERIAL DISTURBED BY EXCAVATION AND/OR BY DEWATERING METHODS SHALL BE REMOVED TO A DEPTH OF 12 INCHES AND REPLACED WITH STRUCTURAL FILL.
5. PLACEMENT OF STRUCTURAL FILL MATERIAL SHALL BE SUBSIDIARY TO ITEM 616.191.
6. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE SALVAGED BACK TO THE NHDOT BUREAU OF TRAFFIC.
7. CONTRACTOR SHALL EXPOSE EXISTING CONDUIT SWEEPS AT EXISTING FOUNDATIONS AND INSTALL NEW CONDUIT FROM THE ENDS OF THE SWEEPS.
8. A TRACE WIRE SHALL BE INSTALLED ABOVE ALL CONDUIT CONTAINING DIELECTRIC FIBER OPTIC CABLE. TRACE WIRE SHALL BE SUBSIDIARY TO ITEM 614.74221.
9. FIBER OPTIC CABLE SHALL NOT BE SPLICED. FIBERS NOT TERMINATED IN A SPLICE ENCLOSURE OR SHOWN AS THROUGH FIBERS SHALL NOT BE CUT.
10. ALL SIGNAL CONDUIT RUNS SHALL HAVE 1/4" 3-STRAND POLYPROPYLENE PULL ROPE (YELLOW).
11. PEDESTRIAN SIGNALS SHALL HAVE ACCESSIBLE PEDESTRIAN SIGNAL-AUDIBLE SIGNAL PUSH BUTTON STATIONS AND ASSOCIATED EQUIPMENT HOUSED IN THE CONTROLLER CABINET.

SIGNAL HEADS

EXISTING				PROPOSED
1,3	4	4	2,3,4,6	9

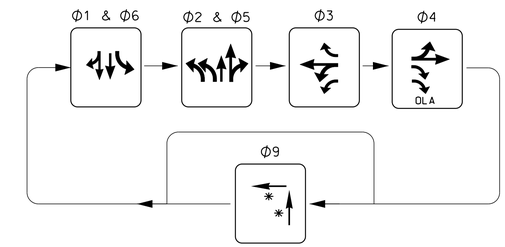


16"X18" LED HOUSING

DETECTOR SCHEDULE

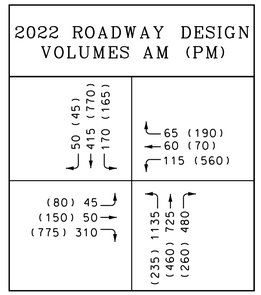
DETECTOR			AMPLIFIER			INDUCT. U H	RESIST. OF LOOP	RESIST. LOOP TO GROUND (MEG OHMS)	RESIST. SHIELD TO GROUND (MEG OHMS)
STREET	DIRECTION	LANE	Φ	NO.	CHANNEL				
NH ROUTE 120	SOUTHBOUND	LEFT	1	1	1				
NH ROUTE 120	SOUTHBOUND	THRU	6	2	1				
NH ROUTE 120	SOUTHBOUND	THRU-RIGHT	6	2	2				
NH ROUTE 120	NORTHBOUND	LEFT	5	3	1				
NH ROUTE 120	NORTHBOUND	LEFT	5	3	2				
NH ROUTE 120	NORTHBOUND	THRU	2	4	1				
NH ROUTE 120	NORTHBOUND	THRU	2	4	2				
CENTERRA PKWY	WESTBOUND	LEFT	3	5	1				
CENTERRA PKWY	WESTBOUND	THRU-LEFT	3	5	1				
CENTERRA PKWY	WESTBOUND	RIGHT	3	5	2				
LAHAYE DRIVE	EASTBOUND	THRU-LEFT	4	6	1				
LAHAYE DRIVE	EASTBOUND	RIGHT	4	6	1				
LAHAYE DRIVE	EASTBOUND	RIGHT	4	6	2				
						RECORD FIELD MEASUREMENTS ABOVE			

EXISTING N.E.M.A. PHASE SEQUENCE

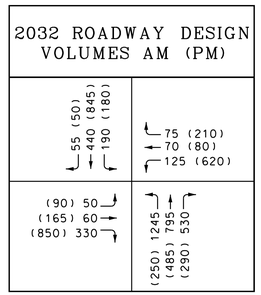


✱ EXCLUSIVE PED PHASE UPON PUSH-BUTTON ACTUATION

2022 ROADWAY DESIGN VOLUMES AM (PM)



2032 ROADWAY DESIGN VOLUMES AM (PM)



SIGNAL FOUNDATION SCHEDULE

FOUNDATION LOC.	TYPE	STATION	NOTES
1	-	42+23 LT 16'	existing power source
2	-	41+97 LT 18'	existing pull box
3	-	41+77 LT 6'	existing meter pedestal
4	-	41+72 LT 8'	existing controller cabinet
5	-	41+06 RT 1'	existing pull box
6	-	40+99 LT 2'	existing pull box
7	-	41+03 LT 6'	existing mast arm pole
8	TSFND	40+96 RT 11'	RELOCATE EXISTING PEDESTRIAN PEDESTAL
9	-	40+57 RT 12'	existing pull box
10	TSFND	40+06 RT 11'	RELOCATE EXISTING PEDESTRIAN PEDESTAL
11		NOT USED	
12	-	40+00 RT 1'	existing pull box
13	-	40+03 LT 4'	existing mast arm pole
14	-	29+46 RT 1'	existing mast arm pole
15	-	29+47 RT 6'	existing pull box
16	-	29+49 RT 1'	existing pull box
17	-	29+43 RT 10'	existing pull box
18	TSFND	29+43 LT 11'	PROPOSED PEDESTRIAN PEDESTAL
19	PB	40+56 RT 15'	PROPOSED PULL BOX

PB = 14" CONCRETE PULL BOX CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARD SL-1

TSFND = CONCRETE FOUNDATION FOR PEDESTALS (SIGNAL AND METER) CONSTRUCTED IN ACCORDANCE WITH NHDOT SIGNAL AND LIGHTING STANDARDS SL-2

SIGNAL PHASING

TIMING IN SECONDS	Φ1	Φ2	Φ3	Φ4	Φ5	Φ6	Φ7	Φ8	Φ9
							NOT USED	NOT USED	EXCL PED
INITIAL INTERVAL	5	5	5	5	5	5	-	-	1
VEHICLE EXTENSION	4	4	3	3	4	4	-	-	
MAXIMUM I	21	41	8	8	44	18	-	-	29
MAXIMUM II	17	26	27	17	10	33	-	-	29
YELLOW	4	4	4	4	4	4	-	-	3
ALL RED	2	2	2	2	2	2	-	-	0
PEDESTRIAN WALK	-	-	-	-	-	-	-	-	4
PEDESTRIAN CLEAR	-	-	-	-	-	-	-	-	22
FLASH							-	-	DARK
RECALL	NL	SOFT	NL	NL	NL	SOFT	-	-	
DETECTOR							-	-	
PRE-EMPT PRIORITY							-	-	

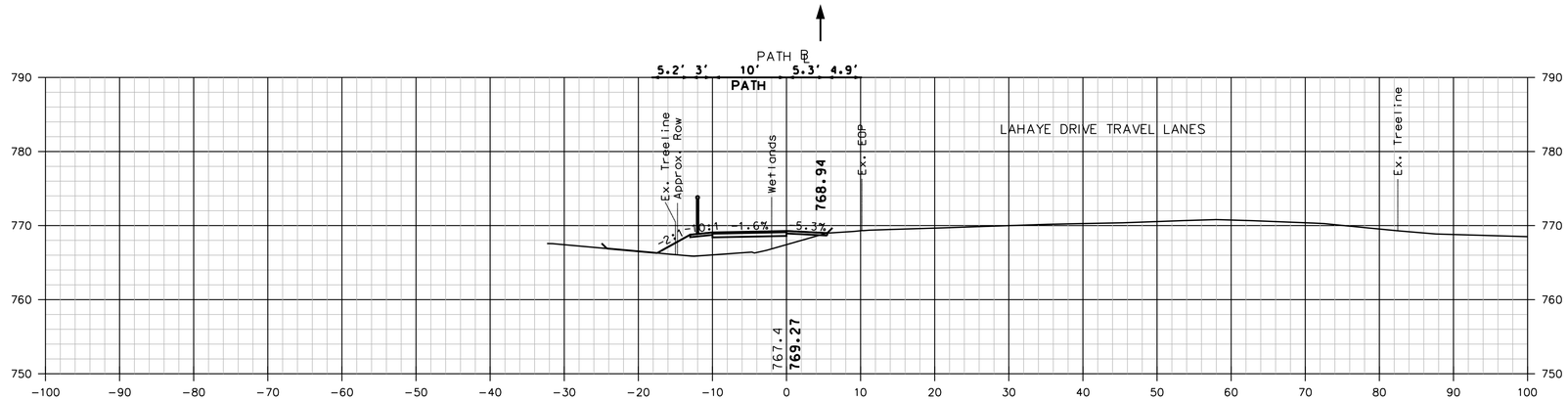
Φ9 ACTIVATED BY PEDESTRIAN PUSH BUTTON

DuBois & King inc.

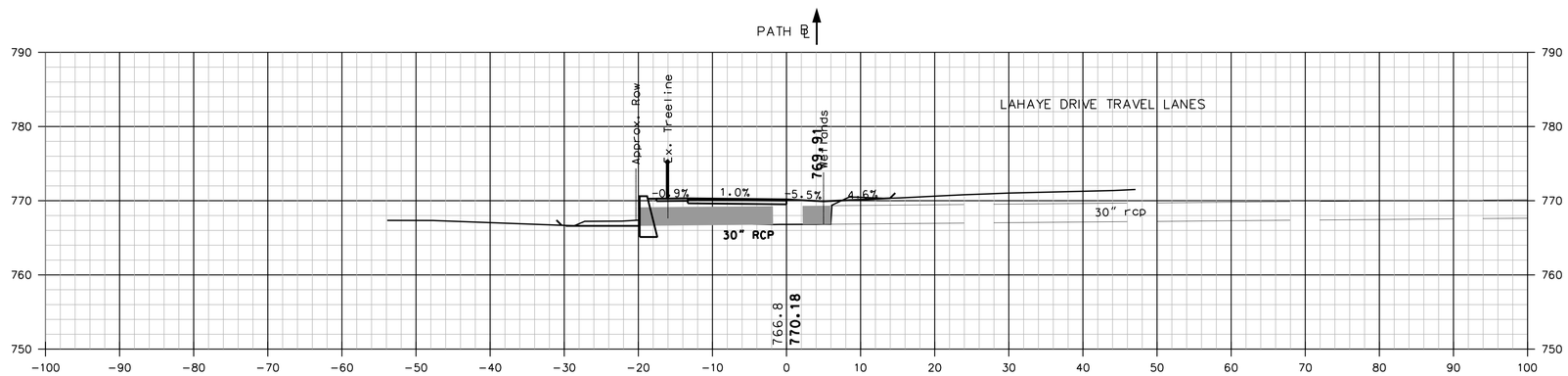
CITY OF LEBANON, NEW HAMPSHIRE

SIGNALIZATION PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
sigplans	41366	11	27

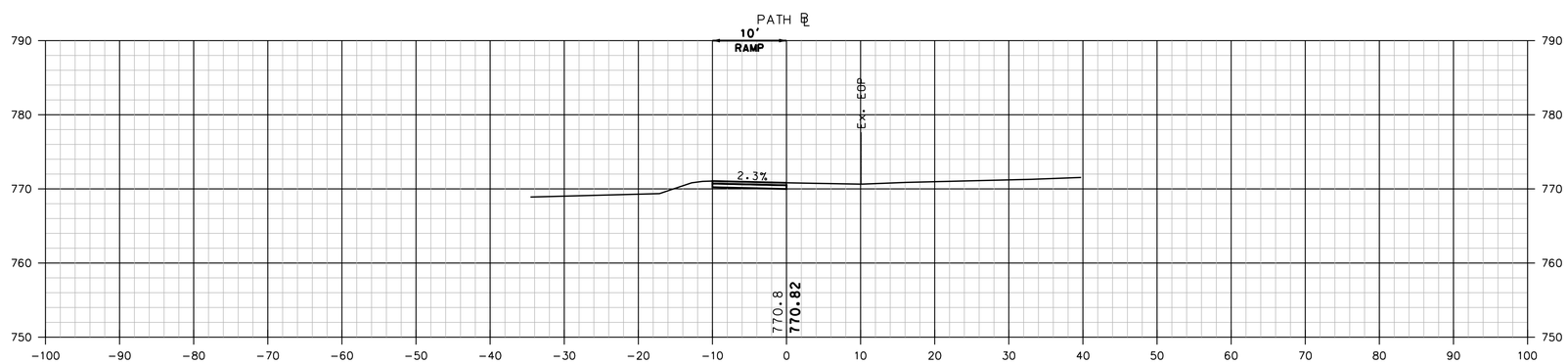


20+50



20+25

SKEW ANGLE 39° 06' 27"



20+00

STA 20+10.00 – BEGIN CONSTRUCTION
STA 20+00.00 – LIMIT OF WORK

NOT FOR CONSTRUCTION

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

LAHAYE DRIVE

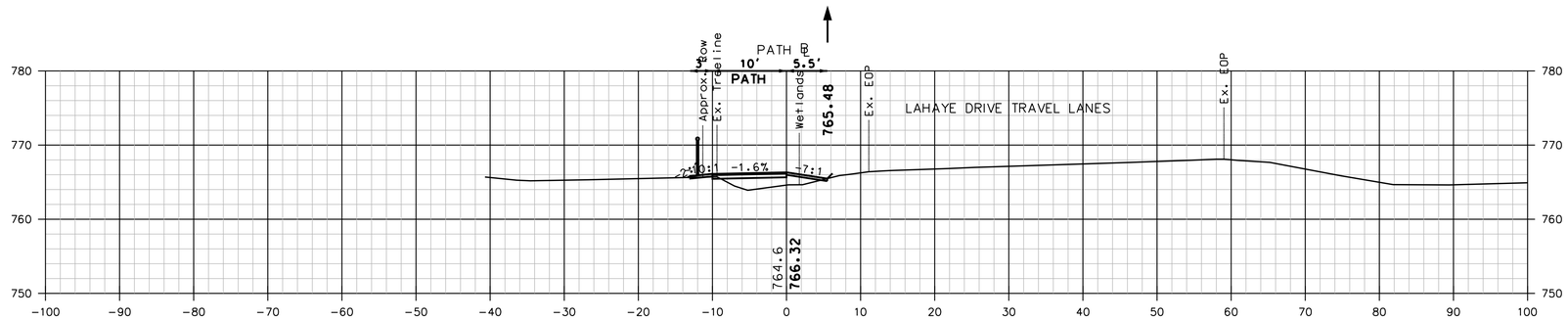
DuBois & King inc

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	12	27

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED	GMC	DATE 6/30/2021
NEW DESIGN		DATE
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



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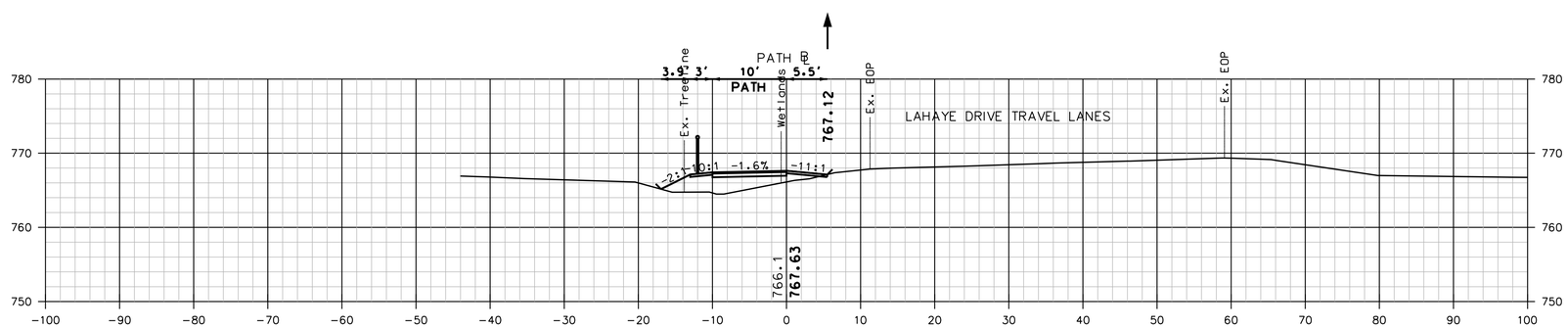


21+00

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

NOT FOR CONSTRUCTION

LAHAYE DRIVE

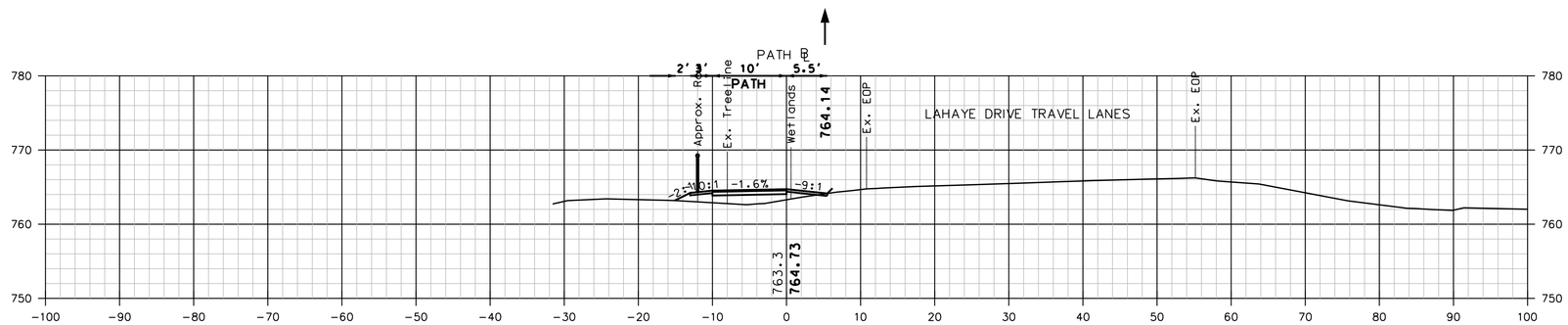
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	13	27

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



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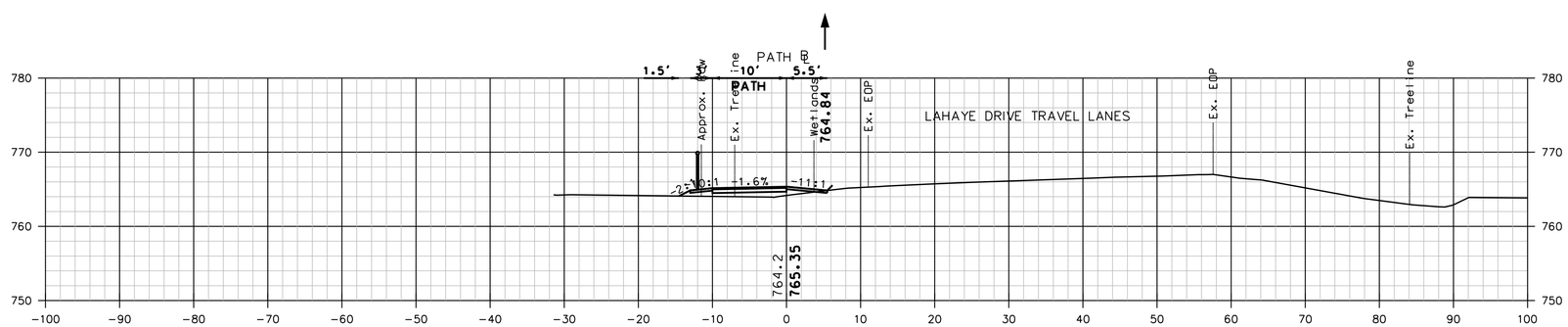


22+00

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

NOT FOR CONSTRUCTION

LAHAYE DRIVE

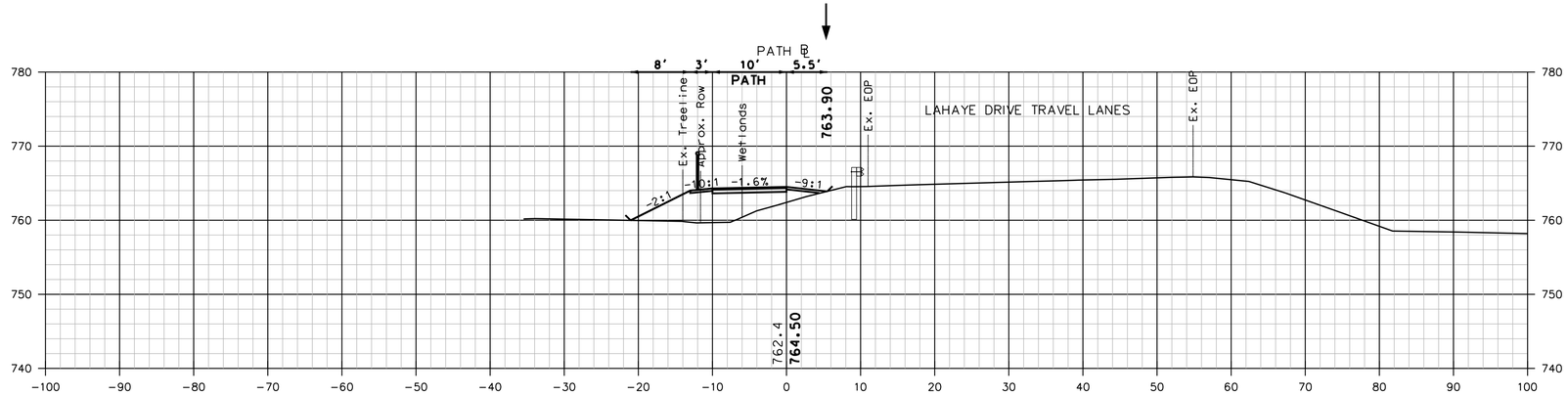
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	14	27

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



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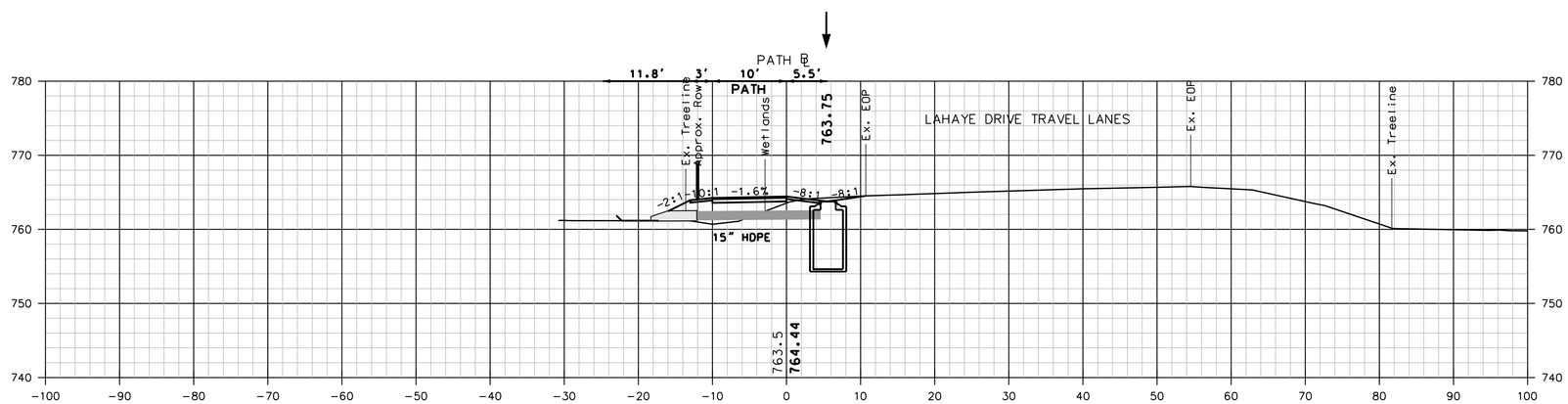

23+00

NOT FOR CONSTRUCTION

SCALE:
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1"= 10' VERT.

LAHAYE DRIVE

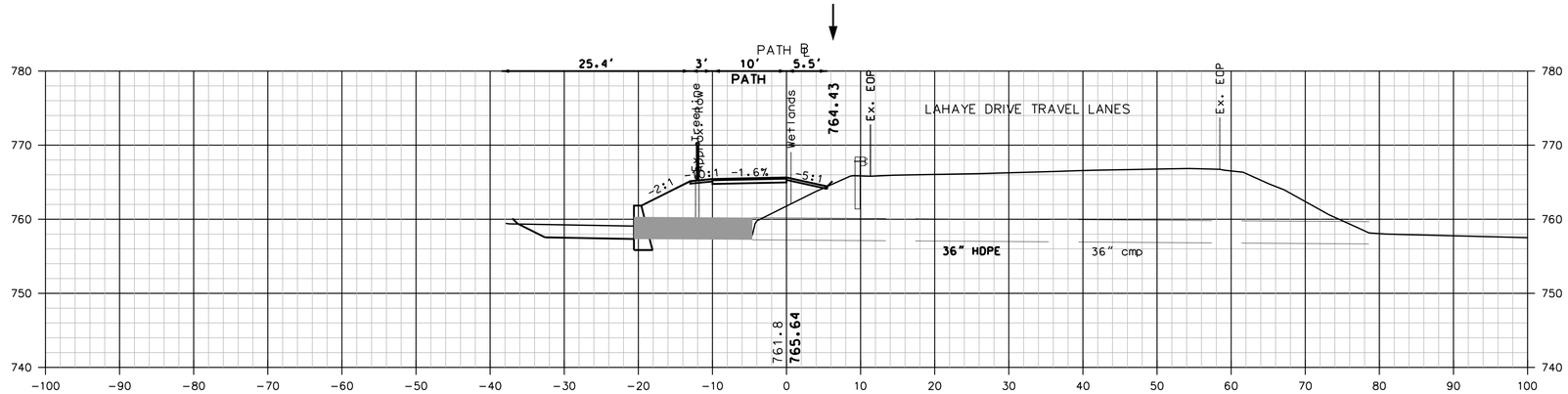
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	15	27

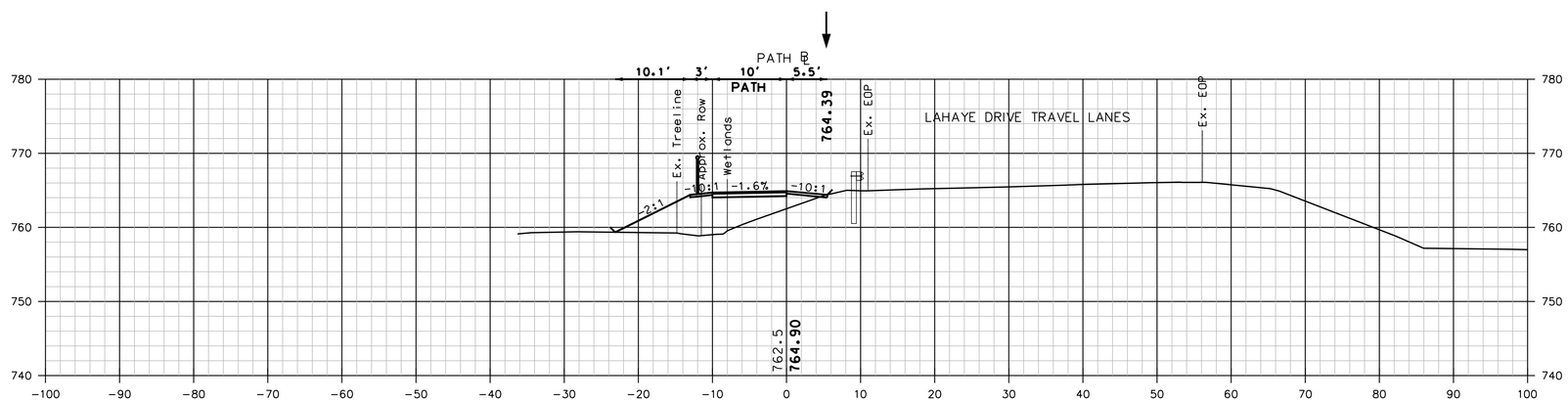
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



24+50



24+00

NOT FOR CONSTRUCTION

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

LAHAYE DRIVE

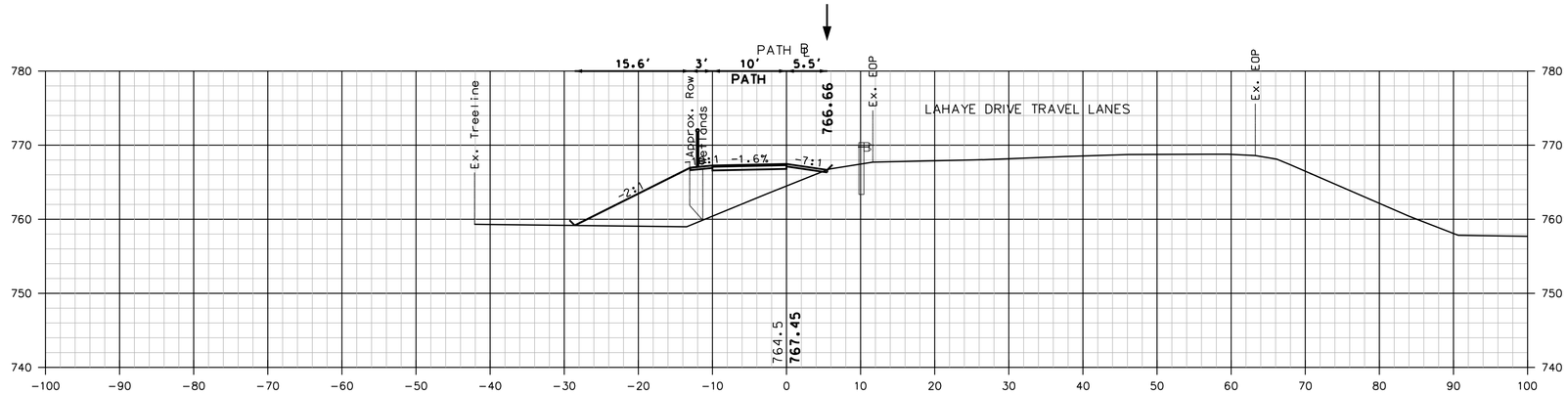
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.		
FILL – C.Y.	MUCK EXCAV. – C.Y.		
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	16	27

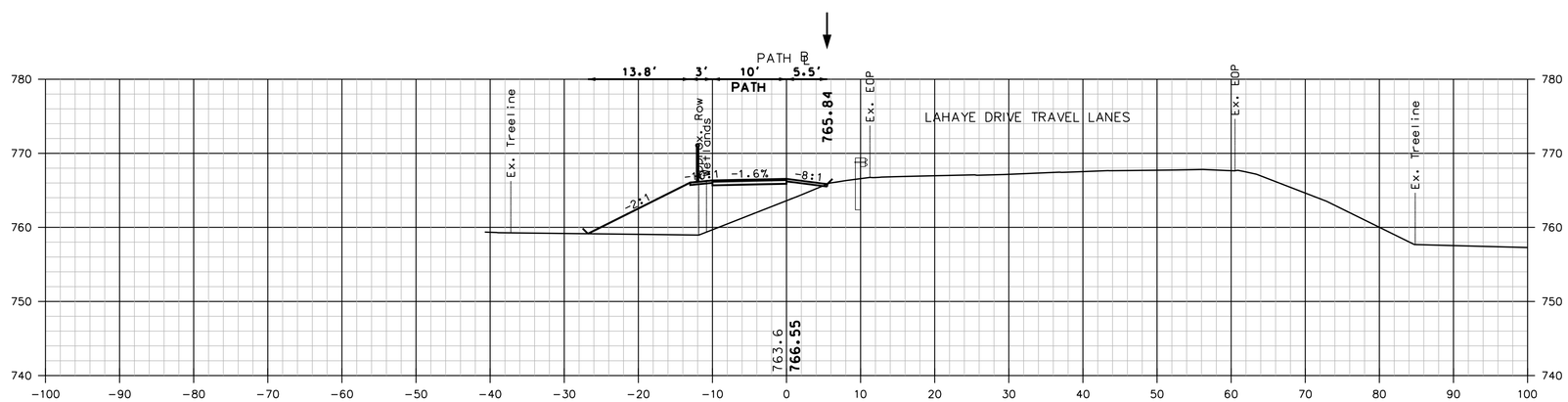
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



25+50



25+00

NOT FOR CONSTRUCTION

SCALE:
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1"= 10' VERT.

LAHAYE DRIVE

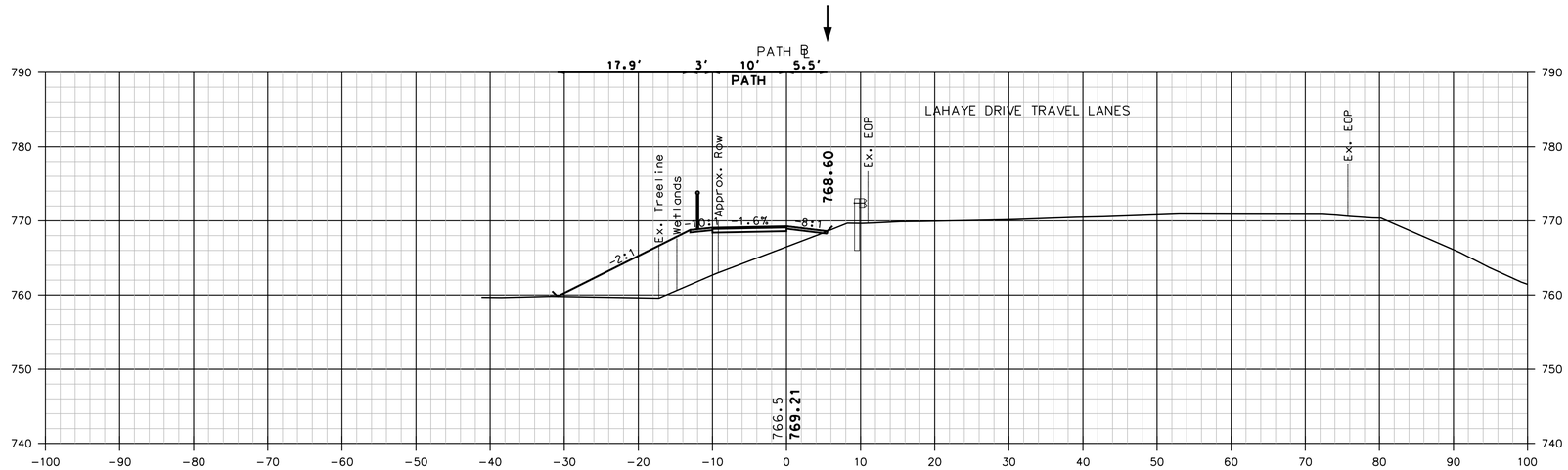
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	17	27

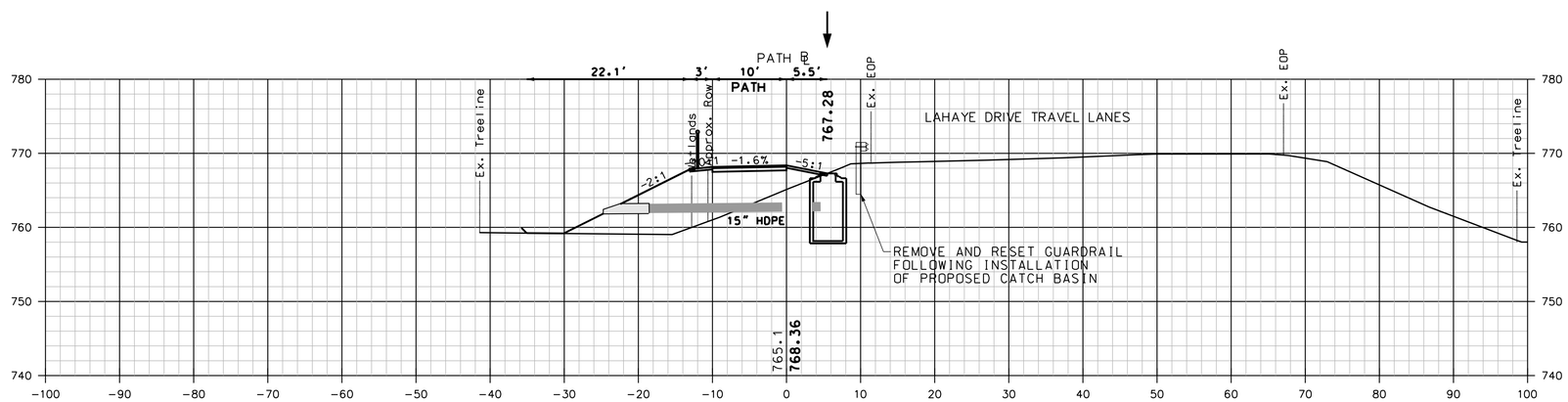
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



26+50



26+00

NOT FOR CONSTRUCTION

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

LAHAYE DRIVE

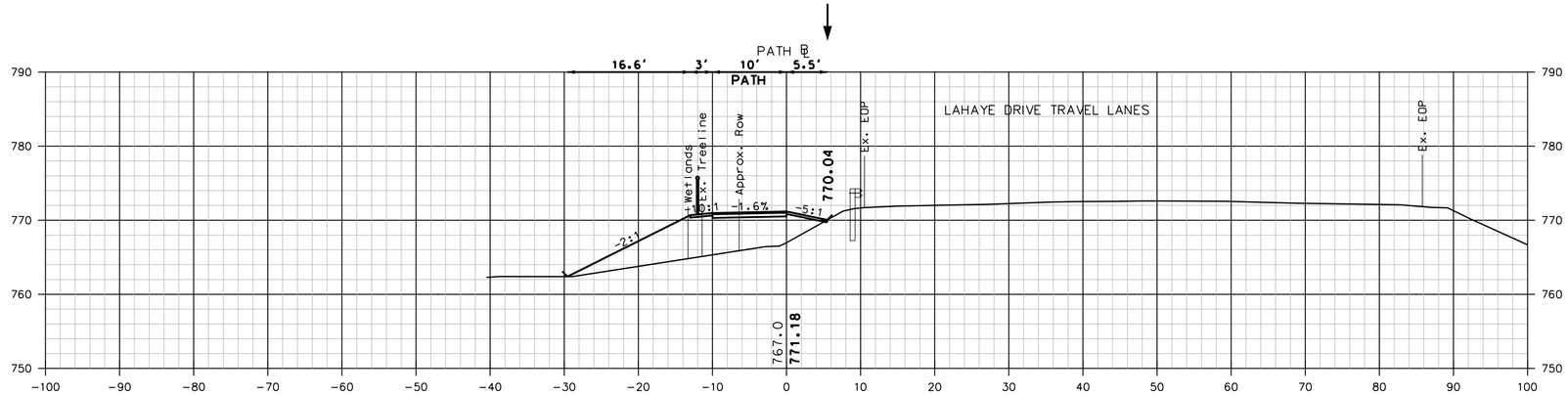
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	18	27

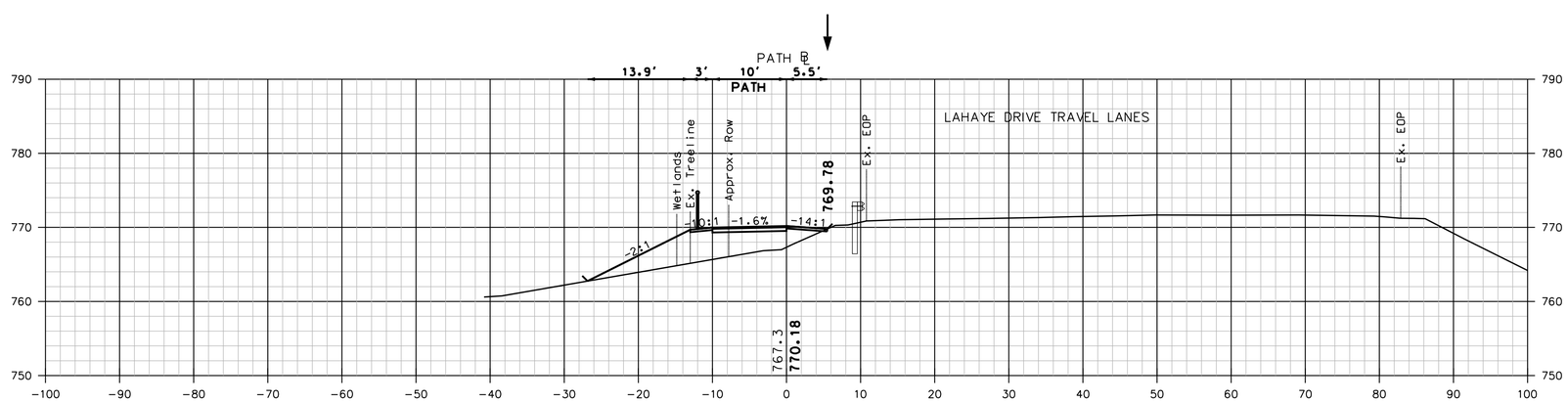
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		DATE
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



27+50



27+00

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

NOT FOR CONSTRUCTION

LAHAYE DRIVE

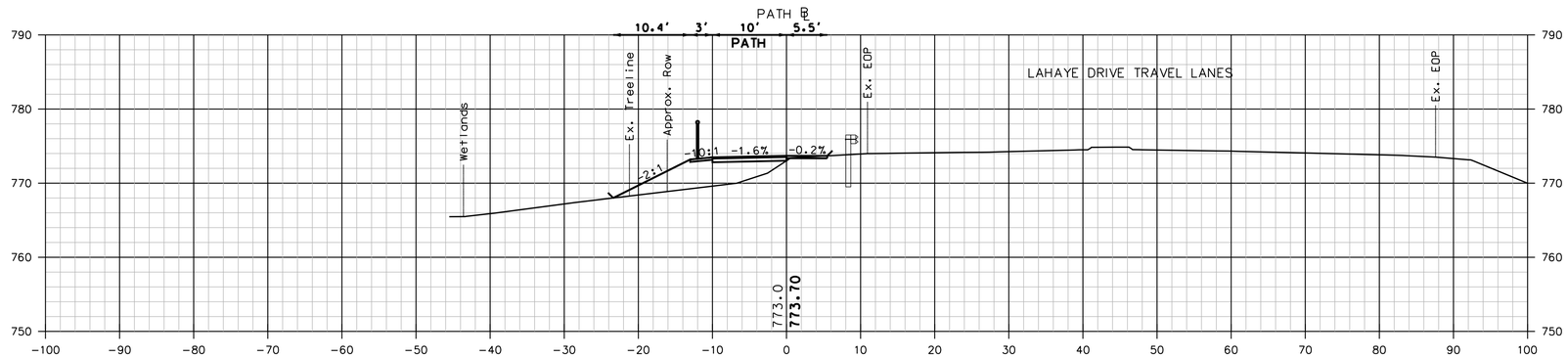
DuBois & King inc.

SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	19	27

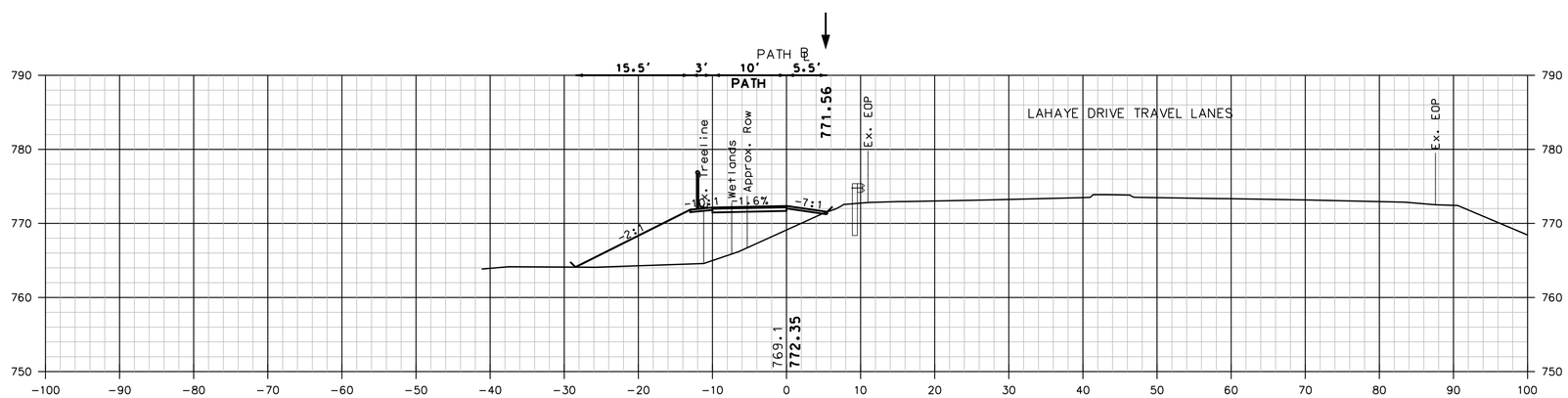
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



28+50



28+00

NOT FOR CONSTRUCTION

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

LAHAYE DRIVE

DuBois & King inc.

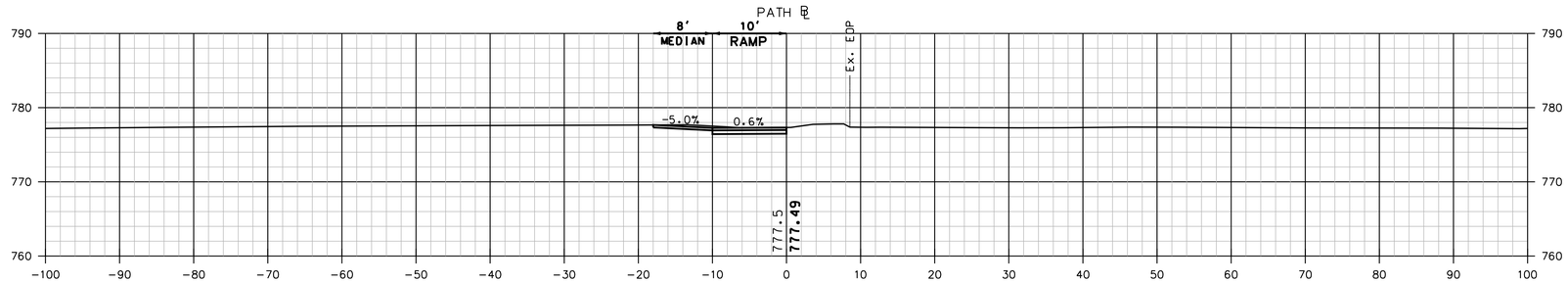
SHEET TOTALS	
COMMON EXCAV. – C.Y.	ROCK EXCAV. – C.Y.
FILL – C.Y.	MUCK EXCAV. – C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	20	27

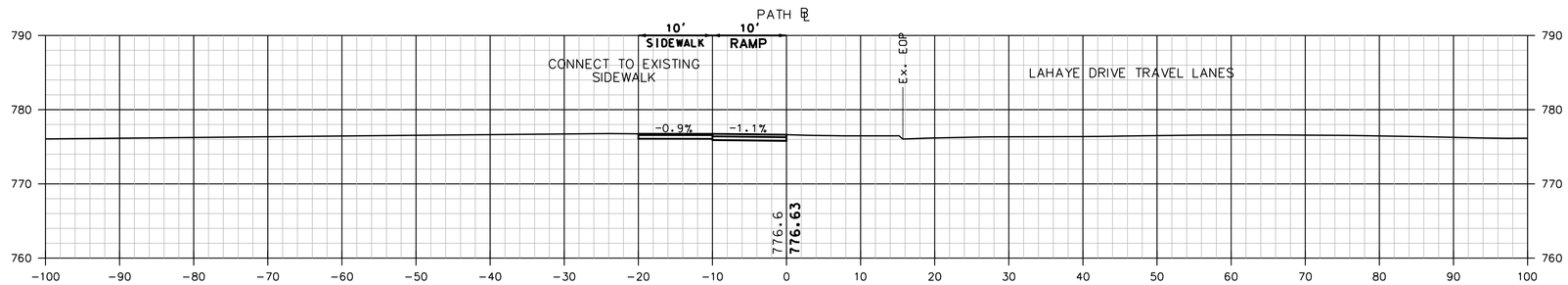
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

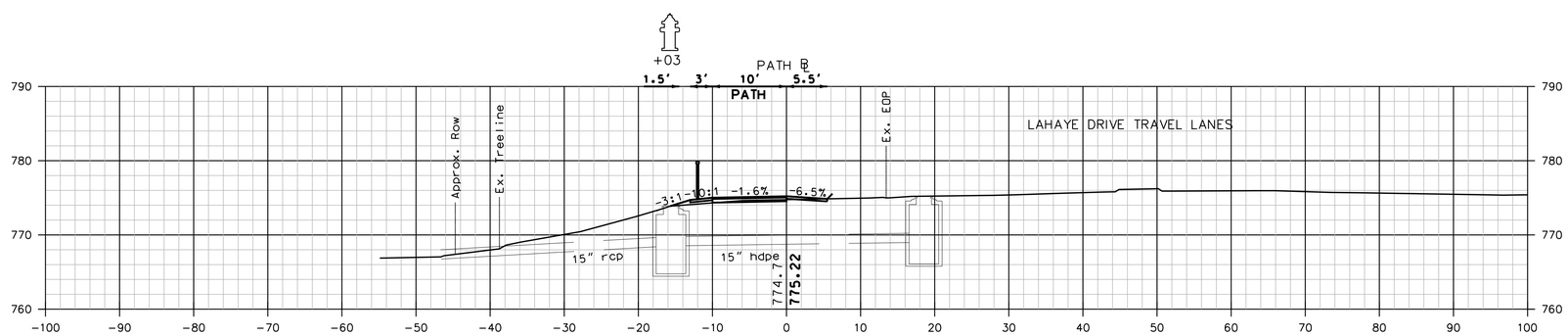
		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE



30+00



29+50



29+00

NOT FOR CONSTRUCTION

SCALE:
1"= 10' HORIZ.
1"= 10' VERT.

LAHAYE DRIVE

DuBois & King inc

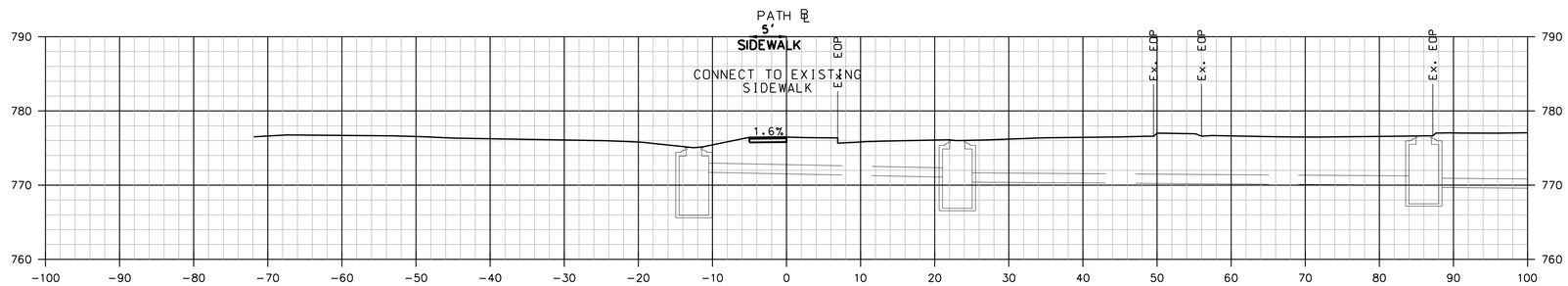
SHEET TOTALS			
COMMON EXCAV. – C.Y.		ROCK EXCAV. – C.Y.	
FILL – C.Y.		MUCK EXCAV. – C.Y.	
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	21	27

REVISIONS AFTER PROPOSAL

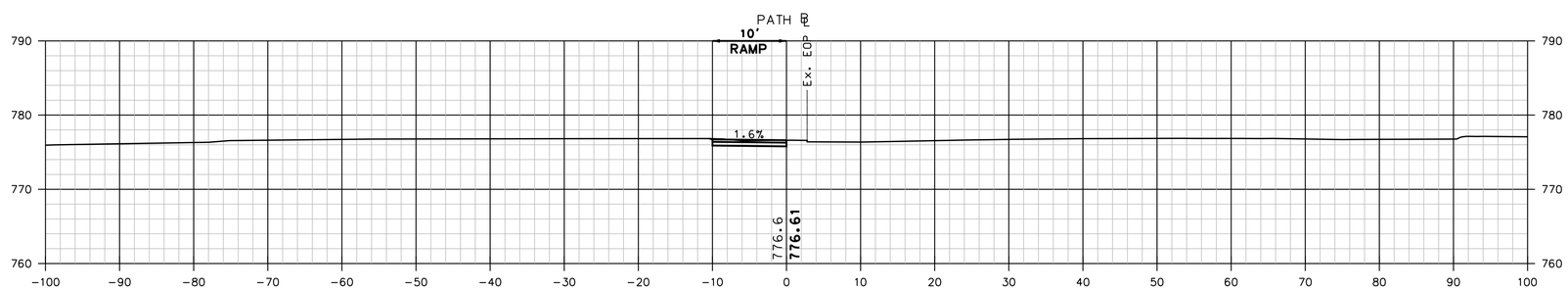
NUMBER	DATE	STATION	STATION	DESCRIPTION

		DATE
SDR PROCESSED		
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE

LIMIT OF WORK STA. 30+89.00



30+89



30+50

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

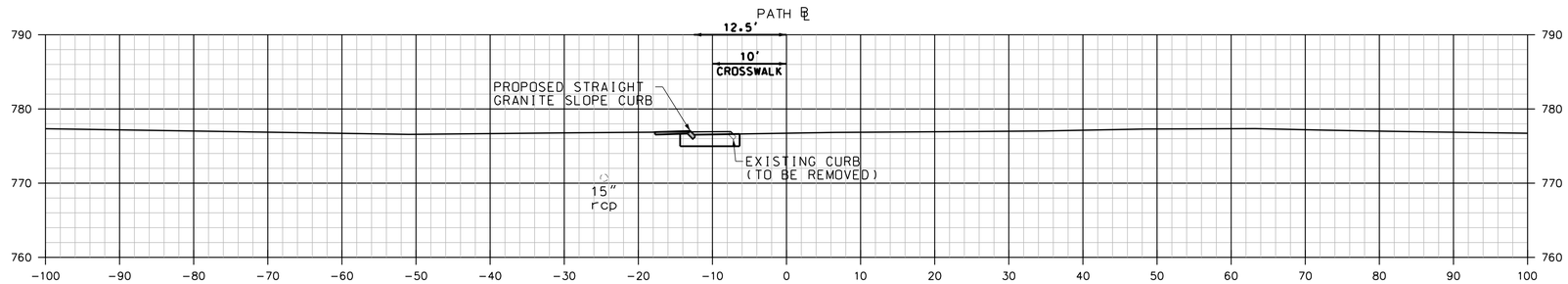
SDR PROCESSED		DATE
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE

LAHAYE DRIVE

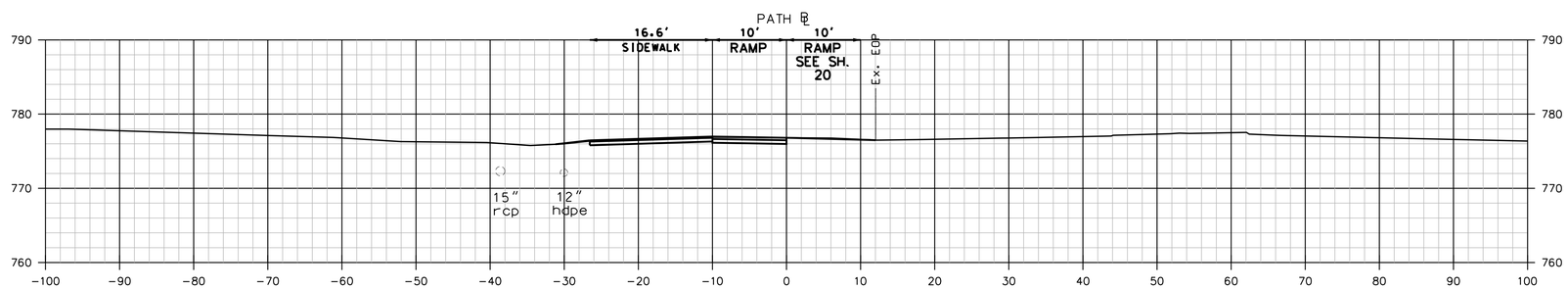
SHEET TOTALS

COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	22	27



40+57



40+00

LIMIT OF WORK STA. 40+00.00

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE

CENTERRA PARKWAY

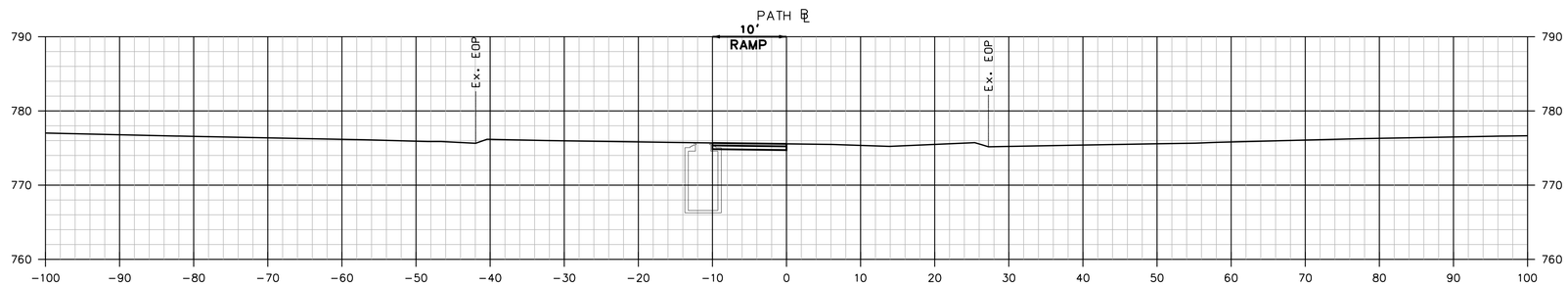
SHEET TOTALS

COMMON EXCAV. – C.Y. ROCK EXCAV. – C.Y.

FILL – C.Y. MUCK EXCAV. – C.Y.

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	23	27

LIMIT OF WORK STA. 41+53.00



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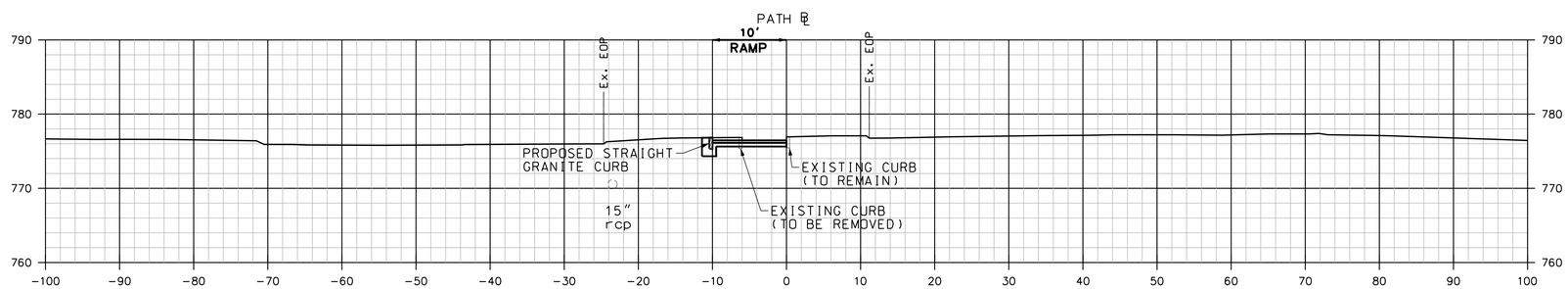


41+00

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED		DATE
NEW DESIGN	GMC	DATE 6/30/2021
SHEET CHECKED	JCH	DATE 6/30/2021
AS BUILT DETAILS		DATE

SHEET TOTALS

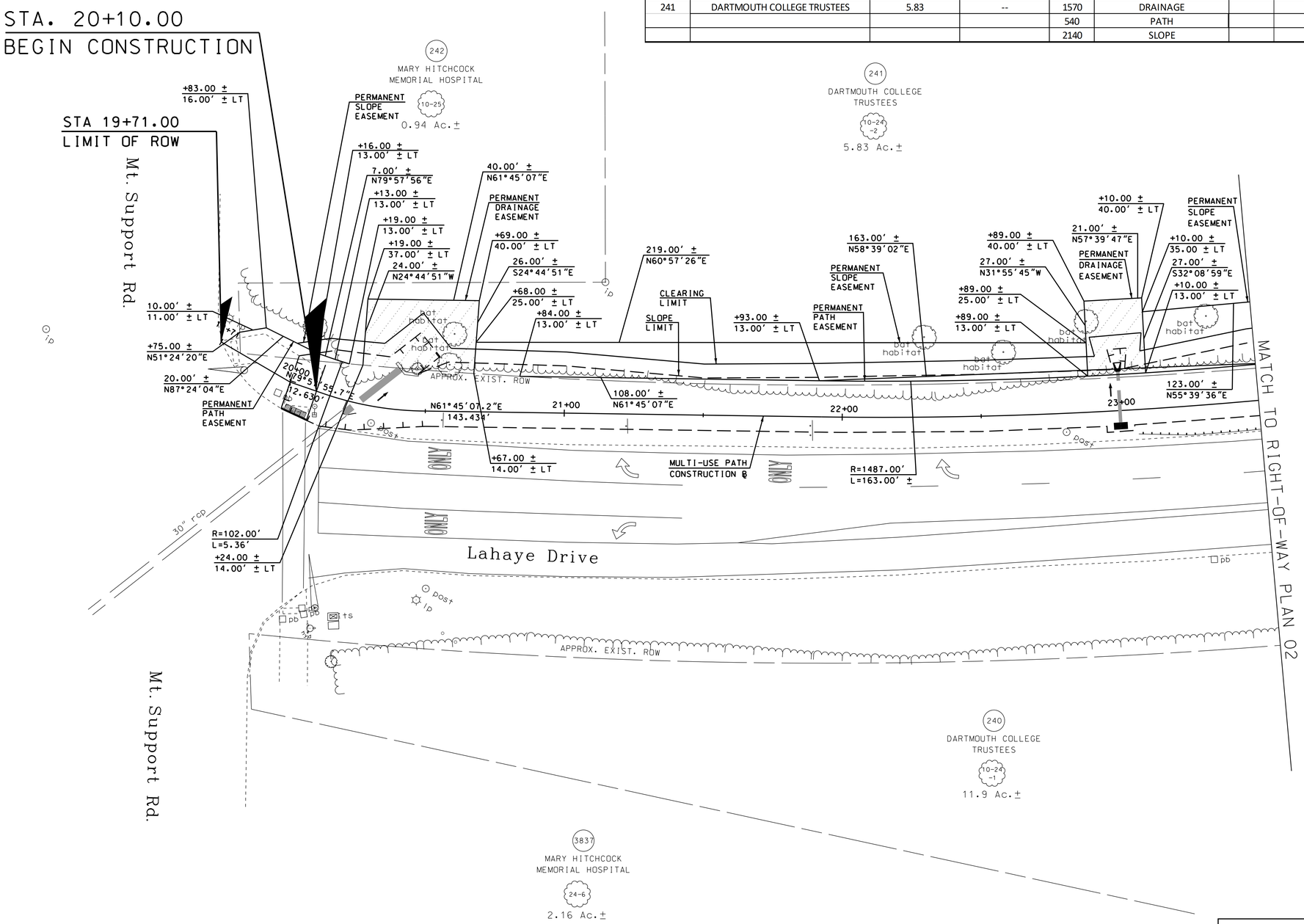
COMMON EXCAV.	– C.Y.	ROCK EXCAV.	– C.Y.
FILL	– C.Y.	MUCK EXCAV.	– C.Y.

CENTERRA PARKWAY

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41366xs	41366	24	27

TABLE OF PROPERTY ACQUISITION

PAR. NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL	AREA OF ACQUISITION	EASEMENTS			
				PERMANENT		TEMPORARY	
		AC	AC	SF	TYPE	SF	TYPE
241	DARTMOUTH COLLEGE TRUSTEES	5.83	--	1570	DRAINAGE		
				540	PATH		
				2140	SLOPE		



20 0 20 40
SCALE IN FEET

DuBois & King inc.

CITY OF LEBANON, NEW HAMPSHIRE

RIGHT-OF-WAY PLAN 01

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Rowplans	41366	25	27

REVISIONS AFTER PROPOSAL

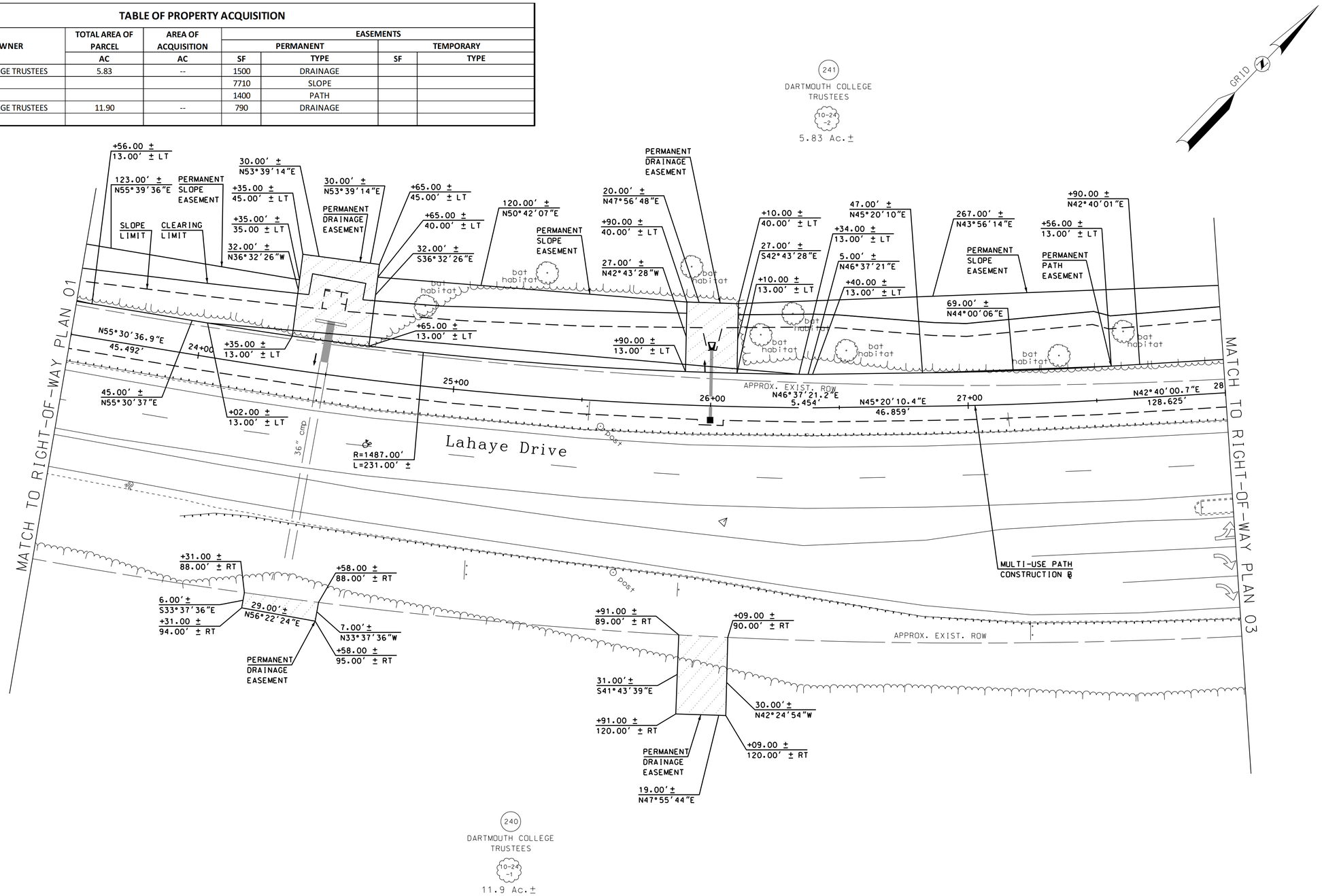
NUMBER	DATE	STATION	STATION	DESCRIPTION

SDR PROCESSED NAME1 DATE DATE1
NEW DESIGN NAME2 DATE DATE2
SHEET CHECKED NAME3 DATE DATE3

AS BUILT DETAILS DATE

TABLE OF PROPERTY ACQUISITION

PAR. NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL	AREA OF ACQUISITION	EASEMENTS			
				PERMANENT		TEMPORARY	
		AC	AC	SF	TYPE	SF	TYPE
241	DARTMOUTH COLLEGE TRUSTEES	5.83	--	1500	DRAINAGE		
				7710	SLOPE		
				1400	PATH		
240	DARTMOUTH COLLEGE TRUSTEES	11.90	--	790	DRAINAGE		



20 0 20 40
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION

REVISIONS AFTER PROPOSAL

SDR PROCESSED	DATE
NEW DESIGN	DATE
SHEET CHECKED	DATE
AS BUILT DETAILS	DATE

CITY OF LEBANON, NEW HAMPSHIRE

RIGHT-OF-WAY PLAN 02

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Rowplans	41366	26	27

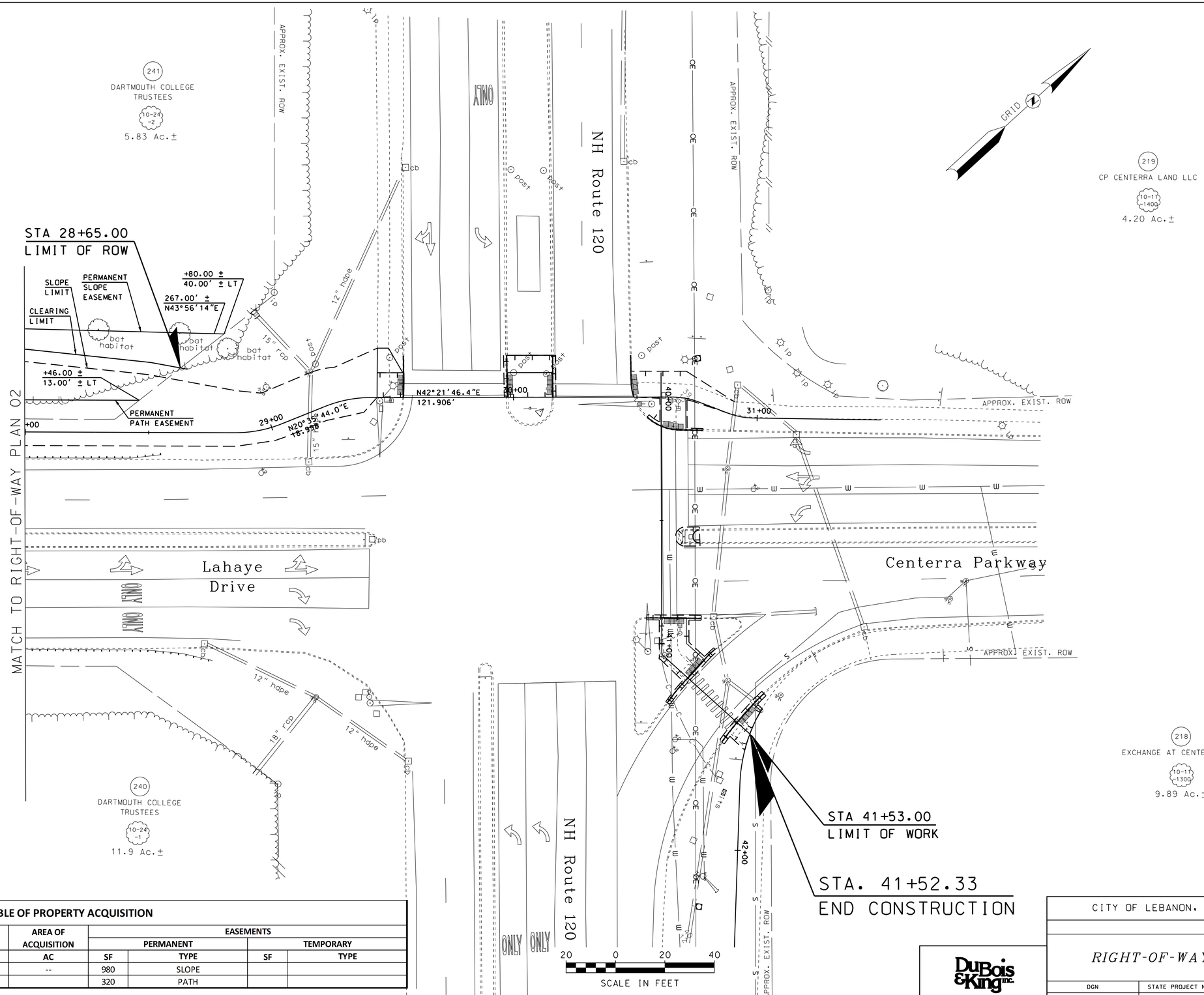


TABLE OF PROPERTY ACQUISITION

PAR. NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL	AREA OF ACQUISITION	EASEMENTS			
				PERMANENT		TEMPORARY	
		AC	AC	SF	TYPE	SF	TYPE
241	DARTMOUTH COLLEGE TRUSTEES	5.83	--	980	SLOPE		
				320	PATH		

DuBois & King inc.

CITY OF LEBANON, NEW HAMPSHIRE

RIGHT-OF-WAY PLAN 03

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Rowplans	41366	27	27