



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Highway Design Manual
October 2023

Appendix 11-02

LEON S. KENISON
COMMISSIONER

August 20, 1998

Robb R. Thomson
Commissioner
Dept. of Resources & Economic Development
PO Box 1856, 172 Pembroke Road
Concord, NH 03302-1856

Dear Mr. ^{Robb}Thomson:

In response to your recent memo regarding the size of snowmobile underpasses, Department personnel met with Paul Gray of your Department to discuss the subject. It is my understanding a mutually acceptable resolution was reached between our Departments.

Under most applications the snowmobile underpass which we are currently using is acceptable (copy attached). In some circumstances it may be desirable to increase the size of the underpass to meet the needs of a particular trail. A request by your Department to increase the size will be incorporated into our project unless its incorporation creates a significant design problem or increases the cost of our project significantly. Each project involving a snowmobile underpass will be reviewed with your Department early in the design phase to address the underpass size as well as other issues regarding the snowmobile trail.

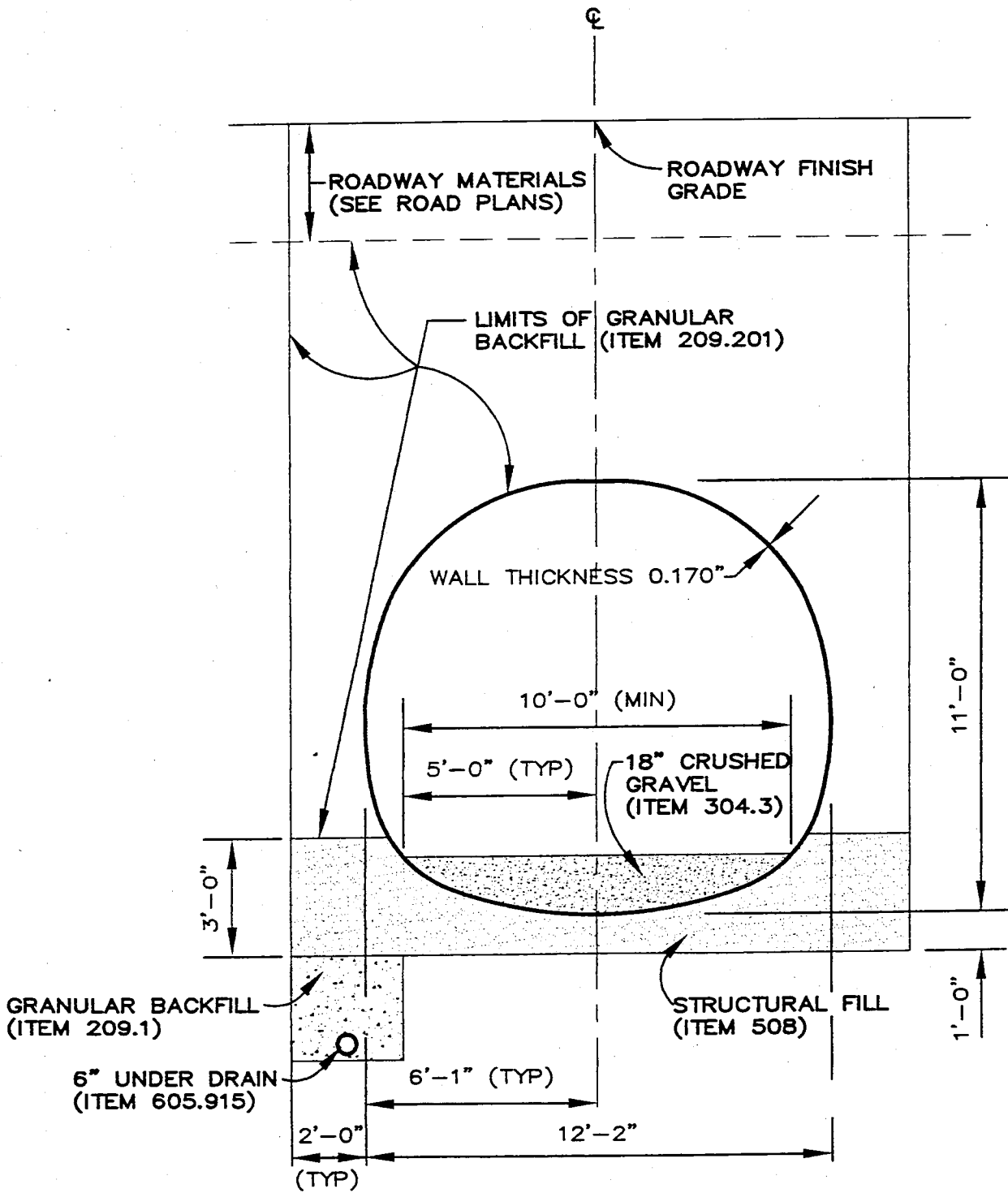
Hopefully, this addresses your concerns. However, if you have further comments, please let me know.

Sincerely,

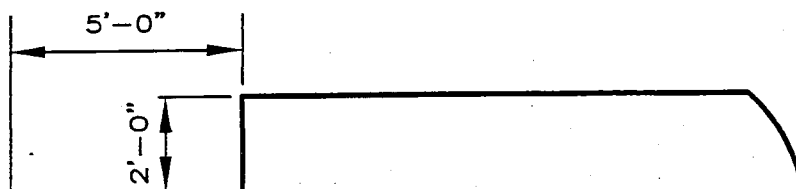
Leon S. Kenison
Commissioner

LSK/RWG/snb
Attachment

cc: Paul Gray, DRED
Craig Green
Jim Moore



SECTION A-A
 SCALE: 1/4" = 1'-0"





ROBB R. THOMSON
Commissioner

COMM [unclear] JUL 24 1998 KUL [unclear] 7151 8-4-98

STATE OF NEW HAMPSHIRE
DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT
OFFICE of the COMMISSIONER

172 Pembroke Road P.O. Box 1856 Concord, New Hampshire 03302-1856

603-271-2411
FAX: 603-271-2629

Date: June 24, 1998

To: *[Signature]* Leon S. Menison, Commissioner
Department of Transportation

Subject: Recreation Trails under State Highways

From: Robb R. Thomson *RRT*
Commissioner

*Let's make the
contact suggested to be
certain our products
are not just 95% of
what is needed. J*

JUL 03 1998

It has been brought to my attention that the design "standard" that DOT is using for structural plate pipe arches needs to be changed. The pipe arches are being installed to permit trail users to go under state highways. The reason for the change is that the current design restricts the choices of grooming equipment that the clubs will be able to use to groom the trail corridors, which include the old rail corridors the state (DOT) has recently been purchasing and turning over to the Bureau of Trails for recreation use.

The full size groomers that the clubs in the north country are currently buying are very close to being 10 feet square(with lights and brush bars). While the current tube size is adequate for the southern portion of the state, it is inadequate for the north country.

Your design staff has been very cooperative in the past. I would suggest that they contact the Bureau early in the process regarding the trail users needs.

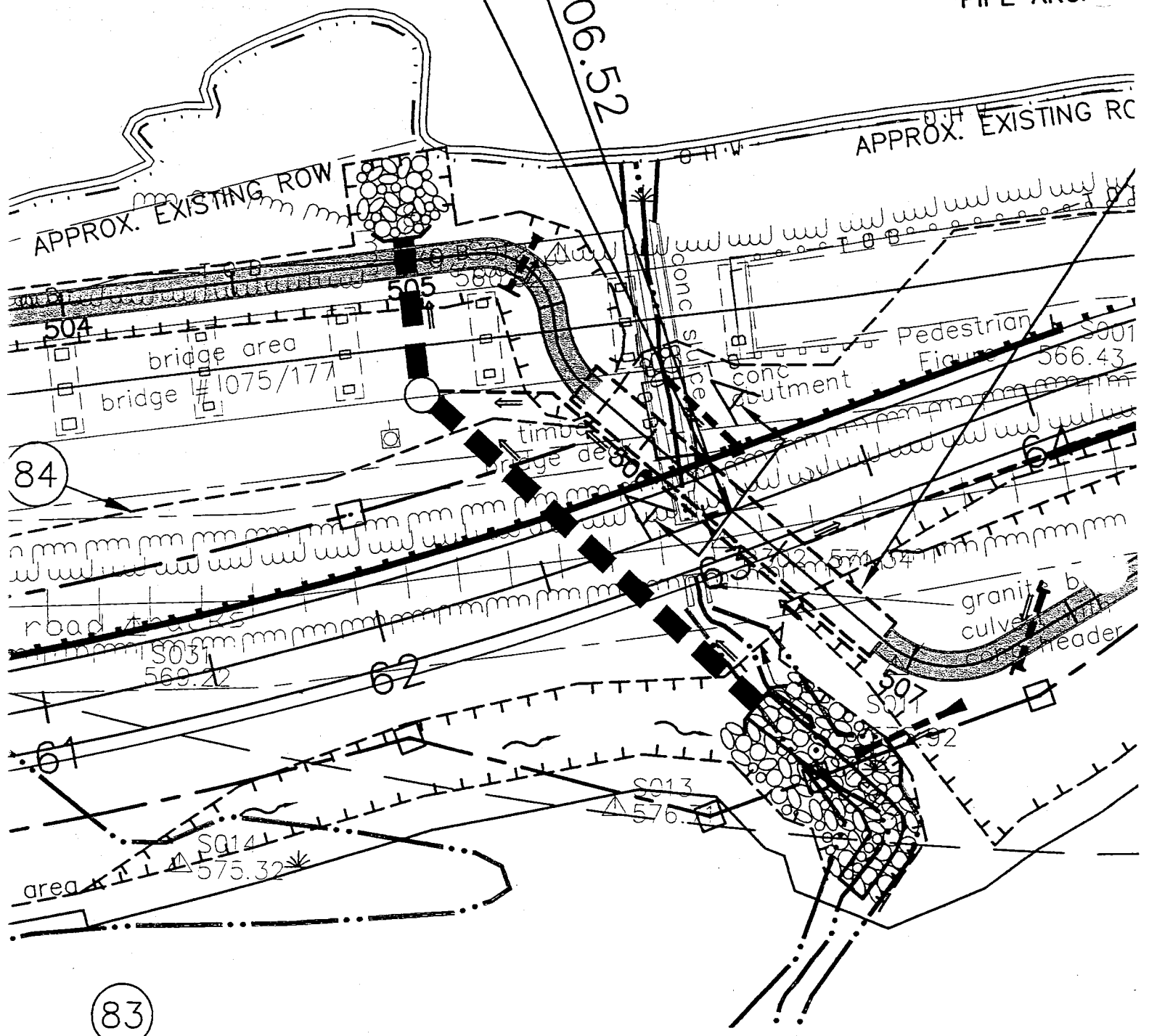
River

STRUCTURAL PIPE ARC.

63+06.52

APPROX. EXISTING RC

APPROX. EXISTING ROW



84

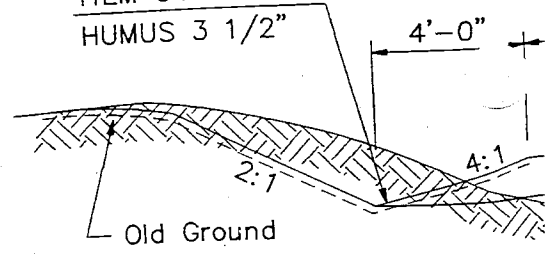
64

62

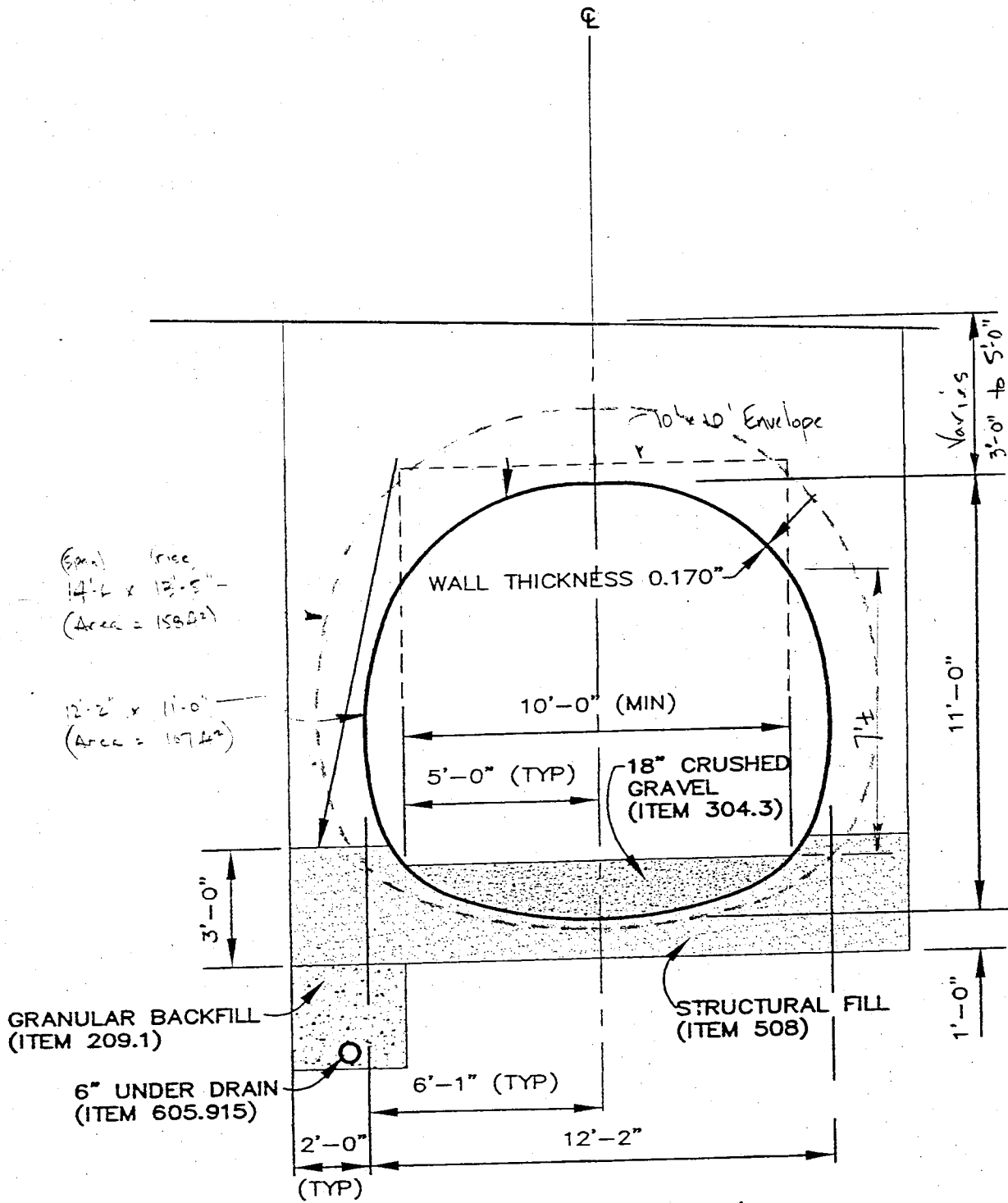
61

83

ITEM 647.1
HUMUS 3 1/2"



TRAIL PLAN



(Sp. Area) Area
 14'-2" x 12'-5"
 (Area = 158.02)

12'-2" x 11'-0"
 (Area = 134.2)

SECTION A-A

SCALE: 1/4" = 1'-0"



From Jeff Kuller-

Subject LANDAFF
P- 4357

8/5/98

B K Green

1. Communication with Trails for the Landoff project has been adequate, consisting of a telephone conversation explaining that the proposed underpass is in keeping with AHDOT practice.
2. Originally the trail crossing was proposed to be at grade. In light of the trail, an underpass was investigated and found to work using the standard pipe section. The pipe was located so that the future ramp to the future Lubon bypass could utilize the same pipe in the same location. The location also minimized wetland impacts. The location was marginal in terms of providing proper cover over the pipe. The cover on the east (uphill) end of the pipe is near the minimum, but is acceptable.
3. Alternatives to the proposed design include:
 - a. Construct a concrete box culvert with 10'x10' opening in the location currently proposed for the underpass. A delay in advertising is likely, but it can probably

advancing this Fiscal year.

b. Construct a new pipe with opening sufficient for a 10' x 10' envelope to the south. This will increase EOW impacts, wetland impacts, and more extensive delays in design.

c. Construct the pipe as proposed but flatten out the highway side slopes to be 4:1 on the west side of the highway so as to be traversible by a grader. The grader would then leave the trail and ride along the highway crossing over the highway in the area of Sta 61+00. This requires a break in the proposed guard rail and some add'l fill material to flatten the side slopes. The trail immediately adjacent to the underpass would need to be groomed by another method.

