cole
HARRY E. COLE & SON
engineering · surveying · planning

October 31, 2022

James A. Grappone, P.E.
Assistant Town Engineer
Municipal Center
196 North Main Street
Southington, CT 06489

Re: AA Denorfia Building & Development
570 Meriden Waterbury Turnpike (SP#1844; SPU#666)
HEC #2235

Dear Mr. Grappone,

Harry E. Cole & Son (HEC) has reviewed your checklist dated October 26, 2022 and offers this formal response

Plan comments are as follows:

1. Will #570 remain? If so, will the house be connected to the proposed water/sewer mains?
   Response: Yes house #570 will remain and will be connected if not already connected to the existing or proposed sewer and water mains.

2. If #570 is to remain the development parcel address will need to be changed. The official address will be XXX Meriden Waterbury Turnpike, Unit 1, etc.
   Response: Acknowledged. The address has been updated to call the parcel 580 Meriden Waterbury Turnpike (the neighboring property is 596).

3. Provide sight lines in each direction exiting onto Meriden Waterbury Turnpike.
   Response: Sight lines are proposed and shown on Sheet C1.

4. DOT State Encroachment Permit is required prior to the start of work.
   Response: Acknowledged

5. Private Sewer Agreement is necessary for maintenance of the proposed sanitary sewer.
   Response: Acknowledged

6. Provide a note on Sheet C3 to protect/support existing sanitary sewer in MWT.
   Response: A note has been added to Sheet C3.

7. Label the entrance wall. Is there any impact with the proposed wall and the sanitary pipe run between MH 1 and MH 2?
   Response: The entrance wall has been labeled and should have no impact to the sanitary main below. The wall footing elevation is approximately 272.0 and top of sewer main is approximately 263.0.

8. Provide proposed garage floor and basement floor elevations.
   Response: A table indicating the conceptual garage, basement, and finished floor elevations has been added to the plans; see sheet C2.

9. The scaling on Sheet C3 seems off. Please confirm the pipe runs between manholes. Will the sanitary pipe elevation exiting the basement be under the slab?
   Response: The scales have been checked and are accurate. The intent is not to have basement services.

10. The westerly end of the detention pond should be fenced in based on the side slopes.
    Response: The basin is designed to drain and therefore the criteria requiring a fence is only met due to the slopes. The western side of the basin has a 3:1 slope along much of the basin to the north. The southern side will be bordered by a landscape buffer, we believe that this buffer will act as a barrier from entry and be a more aesthetically appealing solution for the neighboring properties than a fence. There are also two graded maintenance accesses into and out of the basin which would easily allow people and animals safe exit from the basin should they enter from a side slope.

11. Do the smaller detention basins need to be fenced in?
    Response: No the smaller basins are only 2' deep

12. Provide detail for stone infiltration trenches.
    Response: A detail for the stone pretreatment strips has been added to sheet D4.

13. Is CB #C1 raised above grade? Check the frame elevation.
    Response: Riser C1 is raised above grade to provide some water quality volume and promote infiltration in the area of the depression.

14. What is the high water elevation for the rain garden (CB C1)?
    Response: The 100-year storm elevation for the rain garden is 275.74.

15. Provide correct TOF/FL information on SMH #9 along with the pipe run between MH9 and MH4.
    Response: SMH #9 has been updated with the correct TOF elevation. The flowline elevation is correct.

16. Is there a requirement on the number of visitor parking spaces?
    Response: No, there is no requirement, however, 8 visitor spaces are proposed.

17. Will any of the units be handicap accessible?
    Response: All units will be adaptable to become handicapped units.

18. What is the minimum driveway width (see detail Sheet D1).
Response: The minimum driveway width is 18'. The minimum width of the private drive (serving all of the units) is 20'. The detail on sheet D1 has been updated to include the word min.

19. Permanent patch detail should include for State Roads.
Response: The State of CT DOT detail has been added to sheet D4.

20. Provide typical detail for private roadway.
Response: A detail for the private roadway has been added to sheet D4.

21. The subject site is close or within the NDDB. Please file an application to CT DEEP.
Response: An NDDB request has been submitted and the results will be sent to the Town of Southington.

Drainage comments are as follows:

22. There appears to be a fair amount of surface runoff coming off the private drive and units on the east side of the roadway onto the lots 1-9. It appears stone infiltration trenches are being proposed. Provide a detail and locations should be called out on the plan set.
Response: A note: "PROPOSED DECORATIVE STONE BLEED OFF / PRETREATMENT STRIP (TYP.) ADDITIONAL AREAS OF BLEED OFF MAY BE REQUIRED AND SHALL BE ASSESSED FOLLOWING STABILIZATION" has been added to Sheet C2 and C1.

23. Swales are shown between the lots and in front of some lots. Is a grassed swale needed after the stone infiltration trenches?
Response: The intent is for the runoff to sheet flow to the swales but at a reduced velocity. Grade to drain arrows are shown on sheet C2 to indicate this.

24. Show foundation drains for each unit.
Response: Foundation drains are shown on all units with a line indicated by FD (-----FD ----- FD-----).

25. Does the opening of the DG endwall pose a problem for units 13 and 14?
Response: We do not believe the DG endwall poses a problem for units 13 and 14. The swale designed in case of overburdening of the system due to failure directs flows to the detention basin and away from units.

26. The proposed swale from the Hillcrest 24" discharge to the DG endwall is 5-6%. Does the swale need to be reinforced? What is the capacity of this swale?
Response: The swale directs flows a very short distance to a settling depression with a minimal bottom slope (0.25%); which is intended to dissipate the velocity of the flows prior to stormwater entering the DG endwall. This depression is approximately 3.5 feet deep and while it is designed to channel the flows from the outlet of the pond to the endwall its flat nature will also act as an energy dissipator. Modeling of the swale indicates a total capacity of 176 CFS. The anticipated flows from the uphill pond are

approximately 36 CFS during the 100-year storm which will result in the swale having approximately 1.75 feet of water. Attached is a report indicating the design criteria and capacity of the entire swale and pipe.

27. Is there a right to flow in place at the westerly property line?
    Response: Not at this time.

28. Have you done any test pits to determine the depth to groundwater at the large detention basin?
    Response: Test pits have been done and no evidence of groundwater was found. Test pit data has been added to sheet C2.

29. Should there be an overflow for the retention basin near unit 1?
    Response: GTD arrows have been added to direct overflow from the basin behind unit 1 and to a swale leading to the larger detention basin.

30. Label all flared end outlets.
    Response: The flared end has been labeled.

31. Final review of the drainage calculation are pending. Final report will need to signed/sealed by CT PE.
    Response: Acknowledged

I believe the revised plans and documents adequately address your comments. If you have any further questions or concerns, please do not hesitate to contact me.

Sincerely,

Barton Bovee, P.E.
Senior Engineer

Cc: AA Denorfia Building & Development

Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Nov 1 2022

Pipe Between A4 and A5 at Endwall

Invert Elev Dn (ft)	= 253.00
Pipe Length (ft)	= 190.00
Slope (%)	= 6.84
Invert Elev Up (ft)	= 266.00
Rise (in)	= 24.0
Shape	= Circular
Span (in)	= 24.0
No. Barrels	= 1
n-Value	= 0.012
Culvert Type	= Circular Concrete
Culvert Entrance	= Square edge w/headwall (C)
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5

Embankment

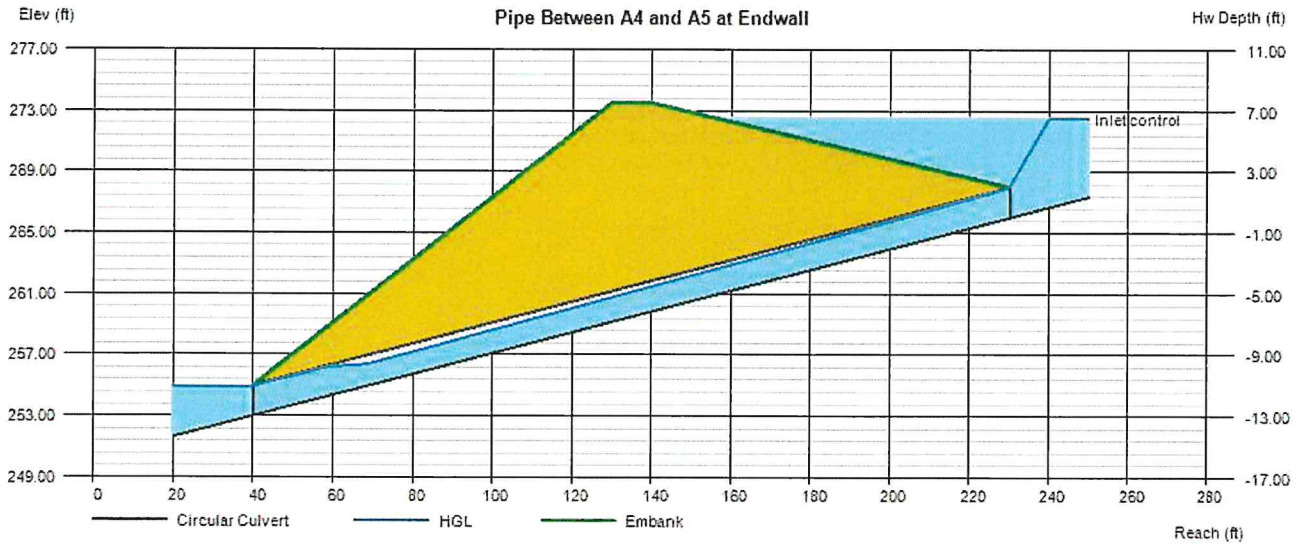
Top Elevation (ft)	= 273.50
Top Width (ft)	= 10.00
Crest Width (ft)	= 15.00

Calculations

Qmin (cfs)	= 36.00
Qmax (cfs)	= 36.00
Tailwater Elev (ft)	= (dc+D)/2

Highlighted

Qtotal (cfs)	= 36.00
Qpipe (cfs)	= 36.00
Qovertop (cfs)	= 0.00
Veloc Dn (ft/s)	= 11.51
Veloc Up (ft/s)	= 11.59
HGL Dn (ft)	= 254.96
HGL Up (ft)	= 267.93
Hw Elev (ft)	= 272.50
Hw/D (ft)	= 3.25
Flow Regime	= Inlet Control



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Nov 1 2022

Collection Channel at DG Endwall

Trapezoidal

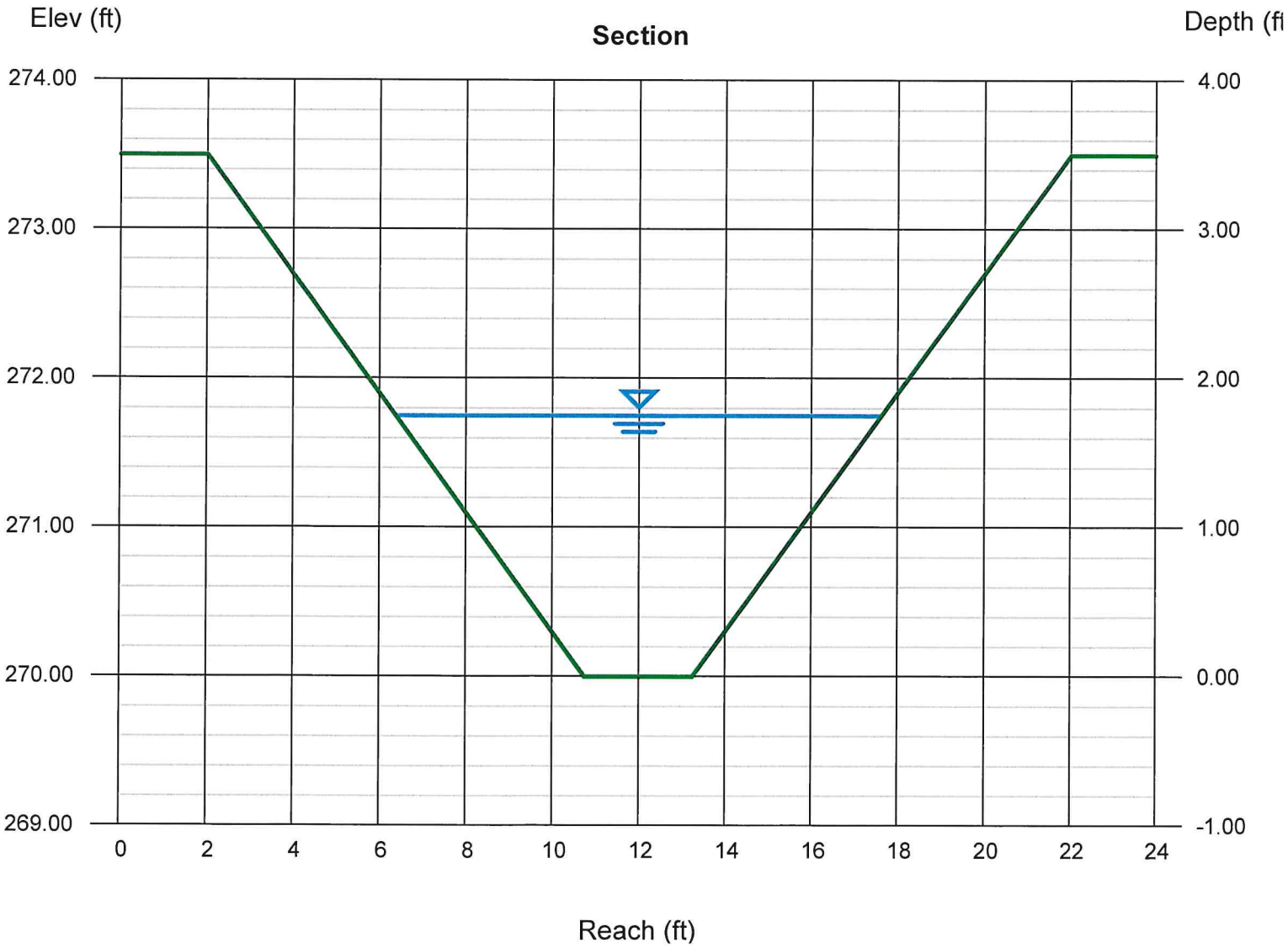
Bottom Width (ft)	= 2.50
Side Slopes (z:1)	= 2.50, 2.50
Total Depth (ft)	= 3.50
Invert Elev (ft)	= 270.00
Slope (%)	= 0.25
N-Value	= 0.025

Calculations

Compute by:	Q vs Depth
No. Increments	= 2

Highlighted

Depth (ft)	= 1.75
Q (cfs)	= 35.97
Area (sqft)	= 12.03
Velocity (ft/s)	= 2.99
Wetted Perim (ft)	= 11.92
Crit Depth, Yc (ft)	= 1.26
Top Width (ft)	= 11.25
EGL (ft)	= 1.89



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Invert Elev (ft)	= 270.00
Slope (%)	= 0.25
N-Value	= 0.025

Calculations

Compute by:	Q vs Depth
No. Increments	= 2

Highlighted

Depth (ft)	= 3.50
Q (cfs)	= 176.04
Area (sqft)	= 39.38
Velocity (ft/s)	= 4.47
Wetted Perim (ft)	= 21.35
Crit Depth, Yc (ft)	= 2.70
Top Width (ft)	= 20.00
EGL (ft)	= 3.81