#### **MEMORANDUM**

# INFORMAL DISCUSSION #1 MEETING OF 11-12-20

To: Conservation Commission/Inland Wetlands and Watercourses Agency

From: Tom Mocko, Environmental Planner

Re: Proposed 3-lot Casella Subdivision – 1 frontage and 2 rear lots on 11.7 acres located east and south of the easternmost cul-de-sac of Knollwood Drive – Rural Residence Zone and Groundwater Protection Zone 2 – Dutton Associates, LLC – The Estate of Jon Casella (c/o Michael Pucci), landowner/applicant

**LOCATION:** Please refer to the location map appearing on the cover sheet on the submitted site plans.

PROPOSAL: To subdivide an 11.7-acre parcel into three residential lots (1 frontage and 2 rear lots) that are to be serviced by individual, on-site septic systems and wells. Access is provided from the cul-de-sac using a shared drive that splits to the proposed house sites. A private stormwater detention basin is also proposed to handle the stormwater runoff; it is located 230 feet south of the proposed house on lot 3, which is some 60 feet lower in elevation than the house; importantly the site development plans were revised to divert runoff from the eastern portion of lot 2 and channel creation downgradient of the proposed stormwater treatment basin. Private conservation easements are proposed on portions of all three lots.

**REVIEW:** Within your packet or to be uploaded onto the Town's website are revised plans (revised 10-02-2020) for review. Following this memorandum are: meeting minutes from the Commission's review on July 16, 2020; excerpts from the recently revised and submitted drainage report; review comments dated 11/4/20 addressed to Jim Dutton from the Engineering Department; and the staff memorandum to the Commission for the July 2020 meeting.

Importantly, the downgradient drainage concerns on the downhill private property (G. & P. Mick at 2335 Hebron Avenue) are much better addressed by a proposed diversion swale on lot 2 as shown on sheet 5 of 9 of the set of submitted plans. This is a rather simple approach to address the concerns of altering the off-site wetlands on the neighboring property that will receive discharges from the proposed detention basin/pond. The Engineering Department appears to endorse the diversion concept.

Now for a sheet by sheet review of the revised set of plans that includes 9 sheets:

- Sheet 1's "legend to plan symbols" needs to be expanded and otherwise revised to include the symbols used to represent slopes at or greater than 20 percent (darkened blotches used on sheets 4 & 5), and exposed bedrock/ledge at the land surface (a hatching pattern also on sheets 4 & 5). Also, there are two different symbols used for the proposed sediment barriers, in which the bolder symbol too closely resembles the symbol used for the proposed "edge of bituminous pavement"; let's make it obviously known where the sediment barriers are to be and not confuse them with the edges of pavement.
- Sheet 4 indicates: the existing topographic conditions and highlights the slopes at or greater than 20 percent (dark gray blotches); the bedrock at the land surface (alternating direction of a hatching bordered by a solid line); and the soil types found on the site (numbers and symbols or just a symbol), including the very small area of wetlands in the site's extreme southwest corner.
- Sheet 5 represents a combined site development plan and erosion control and sedimentation plan. First, I highly recommend a separate soil erosion and sedimentation control plan so as to unclutter this, otherwise, too busy plan. Note the "Diversion Swale" and its design on rear lot #2. The proposed conservation and private drainage easement areas are shown. An impervious coverage table is provided.
- Sheet 6 provides the test pit and percolation testing data that corresponds to their locations identified on sheet 5. This all pertains to the proposed septic systems that yet needs to be fully reviewed and approved by the Health Department.
- Sheet 7 includes various note and details. Importantly, the "erosion control narrative" appears here; I will be meeting with the consultant to revise said narrative in order to meaningfully improve the effectiveness of the soil erosion and sedimentation control plan for this project. The soil scientist's report of her wetland soils delineation is informative.
- Sheet 8 details the design of the proposed detention "pond" or basin.

In response to the "laundry list" created at the Commission's informal review of the remaining items to explore:

- ➤ It does not appear that any repositioning of proposed houses on lots 1 and 3 occurred in order to enhance their potential solar access;
- > A more detailed drainage report and data was provided;
- > The list of concerns previously given by the Engineering Department has been reduced, but not totally eliminated;
- > The soil erosion and sediment control plans and narrative will continue to be improved upon;

- > The Health Department has the current set of plans for their review; and
- > The proposed conservation easement areas are clearly shown, along with the existing, abutting conservation easement areas.

Once the plans are further revised, a complete application for the wetlands permit is submitted, and nitrogen loading calculations are submitted, then this subdivision proposal will return for formal actions and recommendations by the Commission/Agency.

TM:gfm

# GLASTONBURY CONSERVATION COMMISSION (INLAND WETLANDS & WATERCOURSES AGENCY) Portion of REGULAR MEETING OF MINUTES THURSDAY, JULY 16, 2020

The Glastonbury Conservation Commission (Inlands Wetlands & Watercourses Agency), along with Mr. Tom Mocko, Environmental Planner, in attendance held a Regular Meeting *via* ZOOM *video conferencing*.

#### ROLL CALL

**Commission Members-Present** 

Judy Harper, Chairman-Dennis McInerney, Vice-Chairman Kim McClain, Secretary Frank Kaputa William Shea Mark Temple

## Commission Members- Excused

**Brian Davis** 

#### I. INFORMAL DISCUSSIONS

Proposed 3-lot Casella Subdivision – 1 frontage and 2 rear lots on 11.7 acres located
east and south of the easternmost cul-de-sac of Knollwood Drive – Rural Residence
Zone and Groundwater Protection Zone 2 – Dutton Associates, LLC – The Estate of
Jon Casella (c/o Michael Pucci), landowner/applicant

Mr. Jim Dutton, Dutton Associates, LLC, explained that the site for the 3-lot subdivision is on 11.7 acres located to the southeast of the Knollwood Drive cul-de-sac. He also stated that the lot is moderately steep, sloped, and the topography includes boulders and ledge. He also noted that there is a tiny corner of wetlands extending into the southwest portion of the property. Mr. Dutton presented a slide of the proposed and existing conservation easements on the site. He informed the Commissioners that the Estate of Jon Casella will donate the land to the south to the Town to create a park.

Mr. Dutton stated that there are some uranium issues and the Health Department will want to conduct testing. He also stated that he is not sure if the builder or buyer will drill the well ahead of time. Mr. Dutton explained that all lots will be accessed by a common driveway from Knollwood Drive. He also noted that the septic system area is code compliant. Mr. Dutton explained that the test pits had good results, but he does not have the data on him and would get the information from the Health Department.

Mr. Dutton explained that a drainage system will be located in the area of the common driveway and presented a stormwater summary and charts that show a reduction of the peak flow. He then

explained that they have addressed the concerns that Mr. Mocko brought up regarding the volume of the water and the impact. Mr. Dutton explained that the stormwater runoff flows from the northeast to the southeast and eventually ends up in Hebron Avenue. The water will be diverted to control the volume. Mr. Dutton stated that he has not completed the erosion and sedimentation plans and is waiting for input from the Commissioners.

Mr. Dutton explained that <u>blasting</u> is likely required at the site. He noted that only a couple of houses are nearby and they would send those properties a pre-blast survey. Mr. Dutton also stated that <u>the Engineering Department had requested a few changes</u>. He explained that one of the comments was to change the catch basin to a larger one. Mr. Dutton stated that the issues are minor and would be addressed. The presentation was concluded.

Commissioner Shea inquired who owns the property to the southwest. Mr. Dutton stated it is a wetland and intermittent watercourse system and George Nick owns it. Commissioner Shea asked for clarification on the peak flow and the increase in volume. Mr. Mocko explained that the extra volume changes the characteristics of within the flow line and the extended peak runoff rates cause erosion.

Mr. Dutton explained that the water will be released over a 40-hour period and will enter through the underdrain. He also added that it will not clog and the water will be filtered and drained.

Mr. Dutton also explained that they have done this many times and it works. Mr. Dutton then presented a watershed map. He explained that the blue lines are watersheds A and B. A is to the north and B, the larger one, is to the south. Mr. Dutton stated that both go into the wetlands and down to Hebron Avenue. Mr. Dutton presented another slide and stated the red lines indicate the post-development watershed located in the northeast corner. He explained that it bypasses the detention basin and added that it is the appropriate place to establish a diversion.

Vice-Chairman McInerney inquired if there is a tributary. Mr. Dutton stated that the area is broad and flat and flows through a "U" shaped watershed area and the water flows into a swale, comes out of a culvert and ends up in the detention pond. He then reiterated that the placement of the detention basin is where it needs to be. Commissioner Kaputa stated that he wanted to bring up the point that there will be changes to the characteristics of the post-development flow and runoff.

Vice- Chairman McInerney inquired how conducive the soil is for septic. Mr. Dutton stated that the issue was finding an area large enough with deep enough soil. He also explained that further to the north it gets tougher. Vice-Chairman McInerney commented that the land and topography are steep with shallow bedrock and exposed brownstone. Mr. Mocko brought up the point of uranium mitigation. Vice-Chairman McInerney requested data on the findings when it becomes available.

Commissioner Temple inquired if there was a requirement to put a pump system in the septic system. Mr. Dutton replied yes, with lot 2, and that they will use a 1,000 gallon pump chamber which is much larger than most other pump systems. He also explained there is an alarm to signal if it is not working. Mr. Dutton also explained that he recommends buying 2 pumps, it saves time in case one breaks. Commissioner Temple inquired what happens in a case of a

power outage. Mr. Dutton stated that wells will not work in power outages unless there is a backup generator.

Vice-Chairman McInerney inquired about solar panels. Mr. Dutton explained that one lot has good orientation for solar and the other 2 may need to be turned. Another option is placing the solar panels at the end of the house. He then stated that properties that have solar panels may have a lien placed on them. Mr. Dutton also explained that, from the perspective of the fire department, solar panels are safety hazards to firefighters.

Commissioner Temple asked Mr. Dutton to show all of watershed locations once more for clarification. Mr. Dutton presented the slide and stated that he has done a complete analysis. He then noted that if there was no detention pond, the water would wind up in the exact spot. Commissioner Temple asked Mr. Dutton if he would address Mr. Mocko's concern of erosion. Mr. Dutton stated that they reduced the peak and proposing to divert the excess volume. Vice-Chairman McInerney inquired how far away Roaring Brook is from the proposed subdivision. Mr. Dutton stated over ½ a mile.

Vice-Chairman McInerney inquired how they would prepare the lots for blasting and asked if there was any data. Mr. Dutton explained that on lot 3, there are giant stockpiles and it is expected to have a walk-out basement in the plans and also added that lots 1 and 2 will require more blasting than others. He also explained that he does not have final house plans but it will likely be a 2400 square foot plan. Mr. Dutton stated that the final plans are based on what people actually want and he is not sure exactly what will be blasted.

Commissioner Temple stated that it may be better to use an excavator instead of dynamite because the rocks are weathered and soft and it will keep costs down. Mr. Dutton stated that it is up to the homeowners and if they work with the existing topography it will save money.

Vice-Chairman McInerney inquired if the area was all septic and well and asked if there are any problems. Mr. Dutton stated that he is not is not aware of problems with the septic. He then explained that on Cedar Ridge Drive a well was running dry and they drilled another well a short distance away and it worked.

Commissioner Shea inquired if Mr. Mocko's comment, # 5 on the memo, regarding the runoff was addressed. Mr. Mocko stated that the diversion solves that concern. Vice-Chairman McInerney stated that they do not often divert runoff from one watershed to another. Mr. Mocko stated that the two sub-watersheds involved are very small and it is warranted here in this specific situation. Mr. Mocko also stated that he does not want the Town to approve something that may likely have adverse effects on neighboring properties. Mr. Dutton agreed with Mr. Mocko's point and stated that people will notice. He also stated that there is an easy and reasonable solution and where the diversion goes will not cause problems for residents. Mr. Mocko stated that the application is heading in the right direction and added that it is a practical solution for preventing adverse impacts.

Secretary McClain commented that it would make sense to <u>test the wells</u> before construction. Mr. Dutton stated that it would be his recommendation as well, but <u>there are no laws requiring</u>

this. Secretary McClain stated that it seems odd to build a house only to find out there is uranium. Commissioner Temple and a few other Commissioners stated that uranium can be mitigated. Mr. Mocko stated that he has confidence in the Health Department and they will do the right thing. Mr. Dutton stated that many wells have treatment systems for all sorts of things. He then mentioned that in his own house he has a treatment system for iron.

Chairman Harper wanted clarification on notifying the neighboring properties about the blasting. Mr. Dutton stated that 2 houses at the end of the cul-de-sac on Knollwood Drive would get a survey. Mr. Mocko added that it is the Fire Marshal's Office that establishes the specific distance for conducting pre-blast surveys based upon factors like geology.

Chairman Harper then inquired about the wells. Mr. Mocko explained that the wells are administered by the Health Department.

Chairman Harper asked if there were any members of the public who wanted to speak. No members of the public were electronically present.

Chairman Harper closed public comment on the application.

Chairman Harper and the Commission asked Mr. Dutton to complete the following:

- Position the lots for better solar orientation
- Detailed drainage report and data
- Fully address the Engineering Department's list of concerns
- Finish the erosion and sedimentation plan
- Final review of the proposed septic systems and wells from the Health Department
- More clarification on the area's existing and proposed conservation easements and a larger map for better viewing

Chairman Harper thanked Mr. Dutton for his presentation.

selected pts excerpts from:

# DRAINAGE COMPUTATIONS CASELLA SUBDIVISION

KNOLLWOOD DRIVE GLASTONBURY, CT

PREPARED BY

DUTTON ASSOCIATES, LLC

OCTOBER 1, 2020

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#### SUMMARY

The Casella Subdivision proposal is a 3-lot subdivision of an 11.7-acre parcel located southeasterly of the Knollwood Drive cul-de-sac. The subdivision contains two rear lots and 1 frontage lot. All lots will be accessed by a common driveway from Knollwood Drive. Additionally, a previously approved rear lot (owned by the applicant but not a part of this application) will also be accessed by the common drive.

Topography of the site is moderately steep with approximately 41,200 s.f. (0.95 acres) of the site with slopes over 20%. The steep slope areas are scattered throughout the site. The site also contains some ledge outcrops and many large boulders. Soils on the site are predominantly Charlton and Hollis series (hydrologic soil groups B & D). Vegetation on the site consists of a mixed hardwood forest with scattered pines. Surface water runoff generally flows from the northeast to the southwest. A wetland area exists which was delineated by Cynthia Rabinowitz and field surveyed by Dutton Associates.

Storm water runoff generally flows from the northeast to the southwest and ultimately to a wetland area east, southeast of the site, then water flows southerly through the wetland area to Hebron Avenue, and easterly along the northerly gutter of Hebron Avenue to a catch basin inlet by building #2390, thence southerly through a pipe system to a discharge locates at a wetland area just easterly of Sturgeon River Road.

A subsurface drainage system has been designed to collect runoff from the common driveway. The flows are directed to a detention pond located at the southwesterly corner of the site. The storm drain system was designed for the 10-year storm using the rational method. The gutter flow analysis, pipe design, and headwater analysis were conducted per the Connecticut DOT Drainage manual.

Proposed storm flows from the site are directed to a detention pond located along the southerly end of the site.

Hydrology computations were conducted using the TR-55 Method with routing computations run using the lydraflow Hydrographs program. The detention pond was sized to mitigate for any increase in flow for the 2-year through the 100-year storms. Additionally, a small diversion of an upper portion of one of the watersheds is proposed to mitigate of the increase in the volume of stormwater due to the development. The volume mitigation is proposed due the storm flows running through private property to the southeast vis a small intermittent watercourse and a concern for long term erosion of the channel.

The detention pond will also be used to treat the water quality volume (WQV) from the site. The detention pond has been designed to contain the entire water quality volume below the first outlet flow structure. The WQV will be collected using an underdrain system located at the bottom of the detention pond with the outflow from the underdrain regulated by an orifice sized to drain the WQV over a 40-hour period.

Relow is a summary of the pre and post development flows and volumes from the site.

## STORM FLOW SUMMARY

STORM	EXIST. "A"	EXIST. "B"	TOTAL EXIST.	PROP. "A"	PROP. "B"	TOTAL PROP.	Δ			
YEAR	CFS	CFS	CFS	CFS	CFS	CFS	CFS			
2	1.4	1.7	3.0	1.3	1.4	2.5	-0.5			
10	4,1	6.8	10.4	3.7	5.7	9.2	-1.2			
25	6.1	10.8	16.2	5.5	9.6	14.8	-1.4			
50	7.5	14.0	20.8	6.9	12.8	19.4	-1.4			
100	9.2	17.8	26.0	8.4	16.7	24.8	-1.2			

# **VOLUME SUMMARY**

STORM	EXIST. "A"	EXIST. "B"	TOTAL EXIST.	PROP. "A"	PROP. "B"	TOTAL PROP.	Δ
YEAR	CUFT	CUFT	CUFT	CUFT	CUFT	CUFT	CUFT
2	11,160	20,731	31,890	10,861	21,486	32,246	+356
10	28,739	63,980	92,719	27,968	63,011	90,979	-1,740
25	41,429	97,256	138,685	40,318	94,658	134,976	-3,709
50	51,382	. 124,040	175,422	50,004	120,053	170,057	-5,365
100	62,695	155,006	217,701	61,014	149,360	210,373	-7,328

#### CONCLUSION

Rased on the analysis conducted, the proposed Casella Development will not have an adverse impact on a ownstream properties.

To:

Jim Dutton, L.S., Dutton Associates LLC

From:

Greg Mahoney, Senior Engineering Technician Stephen M. Braun P.E. Assistant Town Engineer

Date:

November 4, 2020

Re:

Casella Subdivision

**Conservation Commission Review Comments** 

Knollwood Drive

Glastonbury, Connecticut 06033

Plan Date:

03/16/2020

Revised To:

10/02/2020- Comments

Designer:

Dutton Associates, LLC

Land Surveyors and Civil Engineers

67 Eastern Boulevard

Glastonbury, Connecticut 06033

1. Final plans and Stormwater Report are to be signed and stamped by the Professional Engineer, Land Surveyor, or Architect, as appropriate to the plan sheet or report.

2. Review and revise labeling of lot number rights associated with the depicted Right of Way, Drainage and Utility Easements to ensure all parties have the appropriate rights. All lots should have rights to the entire common driveway area and utility easement area along with shared rights and maintenance of the Drainage Easement.

3. Review and revise the driveway and utility easement in favor of 250 Knollwood Drive to encompass the entire area of the 30' Right of Way to a limit needed to gain access to the existing lot from the existing cul-de-sac on sheet 2 of 9.

4. Label area of detention pond access easement located on each lot. Provide the remaining land area for Lot N00080 on sheet 3 of 9.

5. Depict and label all roof drainage and footing drain outlet pipes.

6. Clarify grading of driveways to #250 and Lot 3 to ensure that any overflow from Yard Drain #5 doesn't get directed down the driveways toward these properties.

7. The maintenance responsibility for the proposed detention pond and other private stormwater facilities required to develop these lots will be a considerable burden on the future property owners and needs to be properly described through land records documentation. The proposed deeds for each new lot shall include a reference to the shared maintenance responsibility for the stormwater water facilities including the detention pond, subject to review and approval of the Town Engineer. The Common Driveway Agreement shall also include language regarding the required maintenance schedule and method of sharing

- maintenance costs for the stormwater facilities, subject to review and approval of the Town Engineer.
- 8. Depict and label existing houses. Wells, and septic system locations on abutting properties located at #519 and #515 Cedar Ridge Drive.
- 9. Submit final approval stamped and signed PDF copies of the Stormwater Management Report and Final plans to <a href="mailto:greg.mahoney@glastonbury-ct.gov">greg.mahoney@glastonbury-ct.gov</a> in the Engineering Division.

Note: Revised plans may generate more comments based on plan changes reflected from this review.

July 10, 2020

#### **MEMORANDUM**

# INFORMAL DISCUSSION #1 MEETING OF 07-16-20

To: Conservation Commission/Inland Wetlands and Watercourses Agency

From: Tom Mocko, Environmental Planner

Re: Proposed 3-lot Casella Subdivision – 1 frontage and 2 rear lots on 11.7 acres located east and south of the easternmost cul-de-sac of Knollwood Drive – Rural Residence Zone and Groundwater Protection Zone 2 – Dutton Associates, LLC – The Estate of Jon Casella (c/o Michael Pucci), landowner/applicant

PROPOSAL: To subdivide an 11.7-acre parcel into three residential lots (1 frontage and 2 rear lots) that are to be serviced by individual, on-site septic systems and wells. Access is provided from the cul-de-sac using a shared drive that splits to the proposed house sites. A stormwater detention basin is also proposed to handle the stormwater runoff; it is located 230 feet south of the proposed house on lot 3, which is some 60 feet lower in elevation than the house.

#### **REVIEW COMMENTS:**

- 1. Project is situated on rugged terrain on the southern flank of Minnechaug Mountain, just downhill of its southern peak. Slopes range from moderate to very steep.
- 2. The project's features are staked on the land and two "stake-out plans" with each stake's location and number indicated in red.
- 3. There are woods roads (one that is partly constructed with broken asphalt and rolled millings) and at least two large soil stockpiles within the project area.
- 4. Soils are glacial till in origin, are predominantly well-drained and moderately-well-drained with some wetland areas toward the bottom of the slope. Please see more soils information within the attached "Drainage Computations" excerpts provided.
- 5. Staff has reservations about the proposed stormwater drainage plans for this project due to concerns that, although the current peak discharge rate will not be exceeded, the increased volume in the runoff will extend the duration of the peak discharge in the receiving flow-path/drainage-way downgradient. Currently, the flow path is largely over vegetated soil with no incision of a defined channel; staff fears that allowing all the

outflow from the proposed detention basin will lead to a much different and undesirable downgradient flow-path condition unless a portion of the increased volume in the runoff is addressed. So, let's be creative and investigate runoff volume reduction mitigation measures! Additionally: usable access for maintenance to and from the detention basin needs to be demonstrated; and a long-term inspection and maintenance plan needs to be provided.

- 6. Conservation easements currently exist in the neighborhood, directly abutting to the north and some fifty feet to the west. Let's provide guidance on which environmentally sensitive areas of the site to encumber with such easements.
- 7. Moving forward, the Health Department is concerned about: having all of the site's ledge outcrops shown on the plans; requiring uranium and radon testing of the new water wells prior to issuing certificates of occupancies; and proper abandonment of the existing dug well in the site's southwest corner (near proposed riprap outlet swale from detention basin).
- 8. The next generation plans should graphically indicate all land areas of the site that exceed 20 percent (subdivision regulations requirement).
- 9. The Fire Marshal is concerned about: the amount of blasting to remove bedrock on the site for development; and long term maintenance provisions to prevent tree canopy encroachment into the rear lot driveway corridors that seriously hinder access by fire trucks during an emergency.
- 10. A good soil and sedimentation control plan will need to be implemented during construction. Staff will further review and interact with the project engineer on this.

TM:gfm