

# KASTRUD ENGINEERING, LLC

1952 ROUTE 22 EAST – SUITE 104

BOUND BROOK, NEW JERSEY 08805

PH: (732) 667-7744

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## MEMORANDUM

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**TO:** CHAIRMAN GALLIC & PLANNING BOARD MEMBERS  
**COMPANY:** WARREN TOWNSHIP PLANNING BOARD  
**FROM:** CHRISTIAN M. KASTRUD, P.E., C.M.E.  
**SUBJECT:** PB 19-11 – CHASE PRTRNS, BLK 85.01, LOTS 1, 2, 3 &4, SITE PLAN AND SUB.  
**DATE:** APRIL 14, 2020  
**REVIEW:** REVIEW LETTER #1 (FOR PUBLIC HEARING)

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As requested, we have reviewed plans, reports, correspondence, review memoranda and additional documentation in conjunction with the above referenced application. The information specifically received and reviewed can be found, enumerated, at the end of this review memorandum.

**Brief Description:** The applicants are proposing to subdivide Lots 1, 2, 3 & 4 in Block 85.01 into 111 lots. The overall development parcel comprises four main lots; Lot 1.01 (the townhouses), Lot 1.02 (the apartments), Lot 1.03 (the future hotel and restaurant), and Lot 1.04 (the affordable-unit building). Lot 1.01 will be further subdivided into 107 lots; Lots 1.05 through 1.111. Proposed Lot 1.01 will contain all townhouse units, proposed Lot 1.02 will contain the apartment building, proposed Lot 1.03 will remain for future development, and proposed Lot 1.04 will contain the affordable housing building. In general terms, each lot will contain its own infrastructure including stormwater management facilities, water supply, and sanitary waste solutions.

### **1.0 – SUBDIVISION PLANS:**

- 1.1 The Subdivision Exhibit (3.10) clearly shows, using a color scheme, the overall breakdown of the subdivision lots and associated numbering. The numbering shall be reviewed and approved by the Township of Warren Engineering Department and Tax Assessor.
- 1.2 The Final Plat shall be revised to show the current arrangement of lots. All detention basins which were previously contained within individual lots will now be located on one of the four main lots and encompassed within easements. These easements shall be added to the Final Plat.

### **2.0 – SITE PLANS:**

- 2.1 The stormwater management at the commencement of development (clearing and soil removal) is always a critical point. The applicant's engineer shall develop

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a sequence of construction specific to this site to ensure that the stormwater is managed during development as well as post-development. The township's typical developer's agreement requires that all stormwater management facilities be constructed, installed, and operational prior to the issuance of building permits. In order for the detention facilities to be considered operational all storm sewers leading to and roads contributing to these areas must be constructed (with the exception of the top course of pavement).

- 2.2 During the beginning phases of construction, trees will be removed (approximately 18 acres), and soil erosion and sediment control measures will be installed. As this is a prominent location at one of the main gateways into Warren Township, we recommend that the landscaping along roadway frontages (King George Road and Mountain Avenue) be installed concurrently with the clearing to greatest extent practicable.
- 2.3 Prior to the construction commencing, we recommend that the limits of clearing be staked and inspected by the township planning department with respect to the trees to be removed and saved.
- 2.4 The Phasing Plan has been amended (3.11). Each phase appears to have been delineated appropriately from a construction standpoint. One exception is that the stormwater management facility #4 shown in Phase 3 will need to be constructed during Phase 1D as the Access Road "A" drains to it. The applicant may wish to investigate an alternative stormwater sewer design to keep the phases separate. In the alternative, if the current arrangement is kept, we recommend that the area between stormwater management facility #4 and Mountain Avenue be landscaped and screened from view.
- 2.5 According to the township's standard developer's agreement, stormwater management facility #1 shall be constructed and operational prior to a building permit being issued for Phase 1B. Phase 1C would follow as its stormwater management facility is #1 which would have been already constructed. Stormwater management facility #2 would have to be built and operational prior to a building permit being issued for Phase 1E. Stormwater management facility #3 would have to be built and operational prior to a building permit being issued for Phase 2. The applicant may wish to review its anticipated construction sequence and request a modification of this item in the developer's agreement. This modification would be handled by the township committee. I raise the issue here as it creates hiccups in the construction scheduling post approval.
- 2.6 We defer to the Board's professional planner for review and timing of construction with respect to the affordable housing units.

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- 2.7 We defer to the Warren Township Sewerage Authority with respect to the construction of the sanitary sewer system including the pump stations and force mains.
- 2.8 It is our understanding that all roads within the development will be privately owned and maintained. The lighting will be privately owned and cost borne by the homeowners' association(s). In addition, the applicant shall enter into an agreement with the water company with respect to the water mains, services, and hydrants.
- 2.9 As Phase 3 has only been designed conceptually, it may be appropriate to eliminate the proposed connection point to Access Road "A" and leave that connection and design until a final layout has been engineered for that phase.
- 2.10 The applicant shall testify as to the status of approval by Somerset County Planning Board. Proposed Roads "B" & "F" dead end. In the past, this roadway geometry has created an issue with recycling by Somerset County.
- 2.11 The applicant shall discuss with the Board the installation of improvements along its frontage with Mountain Avenue.
- 2.12 The plans show ADA parking and appear to meet the requirements of the act. In Warren, our construction official also reviews the ADA requirements through the Barrier Free Subcode. The applicant may wish to elicit preliminary review and comments from the construction official.
- 2.13 The existing contours on the Topographic Map (3.2) show contour intervals at five feet with a note stating that it is accurate to a contour interval of one-foot. It appears that the engineer has generated two-foot contour intervals for use on the site plan. While this is appropriate for a development and plan of this scale, it appears that there are extraneous contours along King George Road and the frontage of the property. These extraneous contours shall be eliminated.
- 2.14 In addition, it may be useful during construction and inspection to have additional labels added to the existing contours throughout the disturbed areas on the plans.
- 2.15 Grading along the retaining wall at the south end of the apartment buildings shows a swale and a series of inlets. The grading shall be amended to show the swale leading to the lawn inlets. At the northwesterly end of the retaining wall, the grading shall be amended to show the swale avoiding the retaining wall.
- 2.16 The lawn inlets in areas of landscaping shall be the "beehive" style to avoid the grates from being clogged with landscaping debris or the debris washing down into the underground detention basin.

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- 2.17 Stormwater management facility #1 is designed as a sand filter basin. The depths to groundwater in this area are between four and six feet (4'-6') according to the subsurface investigation (2.2). The cross section of the sand filter detail shows a depth of approximately three feet (3'), plus there is a separation distance of one-foot (1'). The applicant's engineer shall confirm that the proper separation and depths are achieved.
- 2.18 A sand filter basin typically has a fore bay where the larger debris pieces (e.g. branches, leaves, garbage) are separated from the runoff prior to entering the sand filter basin. The applicant's engineer shall describe how this sand filter basin addresses that requirement.
- 2.19 The applicant's engineer shall investigate the interaction between the riprap outlet protection and the sand filter and underdrains. There may be a conflict with the depths and elevations. This shall be amended.
- 2.20 The NJDEP BMP Manual allows for a maximum storage of two feet (2') above the sand filter basin bottom. It appears that this basin is intended to provide peak runoff rate attenuation for larger storms than the typical water quality storms. While difficult to interpret from the stormwater management report (2.3), it appears that the water surface elevation will exceed the two-foot maximum. This shall be investigated.
- 2.21 I recommend that a typical cross section of each stormwater management facility be provided on the plans showing the existing and proposed grading, depth to SHWT, section of the material proposed, and maximum elevation of each storm (2, 10, 100, WQ) analyzed.
- 2.22 In addition, the construction detail sheet shows a typical detail for all outlet structures. I recommend that specific details for each outlet structure be shown on the plans.
- 2.23 The grading along the northerly side of stormwater management facility #1, adjacent to the property line appears to be incomplete. This shall be reviewed and amended as necessary.
- 2.24 Stormwater management facility #2 is designed as a bioretention basin. The section on the construction detail sheet shows a depth of four-and-one-half feet (4.5') plus a foot of separation is required between the basin and seasonal high-water table (SHWT). The applicant's engineer shall verify that the proper separation distances are met.
- 2.25 The riprap at FES #2-1 in bioretention basin #2 may interfere with the planting bed. The applicant's engineer shall investigate.

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- 2.26 The underground detention systems (2A, 3A, 3B, 3C) shall be detailed on the plans showing the same information as mentioned above. In addition, appropriate measures shall be shown if the underground detention systems are placed into the groundwater and subjected to buoyancy forces.
- 2.27 The landscaping between the apartment building and King George Road should be carefully reviewed. It appears that some of the plantings may interfere with the proposed water service and water meter pits. In addition, some of the plantings are close to the proposed storm sewer pipe. The concern is that the roots may ultimately disrupt the storm sewer.
- 2.28 Throughout the landscaping plan are small round symbols. The applicant shall testify as to the plant variety of those symbols. They are used along the walkway that runs along the side of the apartment building which faces King George Road. We presume that they were proposed to delineate the public walkway space from the private patio space.
- 2.29 The landscaping at the southerly Road “E” intersection with Mountain Avenue shall be revised to incorporate the site identification sign.
- 2.30 A detail for the “beehive” style grate shall be added to the plans.
- 2.31 Warren Township’s typical roadway section has five inches (5”) of base and one-and-one-half inches (1-1/2”) of top. The detail shall be revised accordingly.
- 2.32 We commend the applicant for considering and designing (at least in the conceptual stage) the recreation areas and walkway path. The applicant shall discuss with the Board the status of the proposed walkway and permits required from NJDEP. The applicant and Board should also discuss the timing of the walkway path from a construction standpoint (e.g. which phase to begin in, by what certificate of occupancy shall it be completed, etc.) If the walkway is approved, it would become incorporated into the site plan and approved by resolution with the condition that all necessary permits be obtained prior to the application being deemed in compliance with the resolution.
- 2.33 Depending on the discussions with the Board, the townhouse layout may change. As such, all site plan sheets shall be changed accordingly, and the exhibits for signage, striping, emergency vehicles, and trucks shall be revised as well.

### **3.0 – STORMWATER MANAGEMENT REPORT:**

- 3.1 The stormwater management report (2.3) demonstrates that the applicant’s engineer has generally designed the stormwater management solutions in accordance with Warren Township’s ordinances and the NJDEP rules and regulations. An appropriate analysis point has been chosen. All runoff from the

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disturbed portion of the site will flow to or near the analysis point. No uncontrolled runoff from this site will impact adjoining properties.

- 3.2 A table shall be added to the initial pages, which would show the runoff rates, outlet control elevations, and water surface elevations in each basin.
- 3.3 The underground stormwater management systems shall be appropriately anchored where constructed within areas of high groundwater.

### **4.0 – STORMWATER OPERATIONS & MAINTENANCE MANUAL:**

- 4.1 We have reviewed the stormwater operations and maintenance manual (2.4). We find it generally in conformance with the NJDEP requirements. However, discussion is recommended regarding the number of entities that will be responsible for the operation and maintenance of the stormwater management system. If separate entities will be responsible for separate systems, then individual manuals will be required.

### **5.0 – SUBSURFACE GEOTECH REPORT:**

- 5.1 There is a substantial amount of fill that was placed on the property about twenty (20) years ago during the development of what is now called Warren Corporate Center (WCC). The applicant shall testify as to the amount of soil that will need to be exported from the site and the general route that the construction vehicles will take.
- 5.2 We presume that the fill material will be removed from the site as no testing was performed in that area. Will that soil be removed as part of these initial phases? Discussion is required as to the sequence of construction and work to be performed in each phase. A complete description of the phases shall be added to the phasing plan and incorporated by reference into the developer's agreement.
- 5.3 Other than the fill material (assuming that it must be removed), has the site been designed to be balanced? If not, we offer the following comments: In the case of material needing to be imported, the material shall be tested and certified that it meets all NJDEP soil standards. If the material needs to be exported, the anticipated route shall be described.
- 5.4 The applicant shall provide testimony as to the design of the site infrastructure and foundations with respect to the depths to bedrock.

### **6.0 – ENVIRONMENTAL IMPACT STATEMENT:**

- 6.1 The applicant shall provide the Board with the status of the Soil Reclassification process with the NJDEP. The EIS references a GIS layer of "Aquifer Recharge

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Potential.” Portions of the site are mapped as having the potential for groundwater recharge. The applicant shall provide testimony as to how this may impact the application for Soil Reclassification. This is mentioned as it may affect the stormwater management plan with respect to Groundwater Recharge requirements.

- 6.2 The EIS references the Indiana bat along with the long-eared bat. The applicant shall testify as to what restrictions, if any, on development are placed on the property. If development timing restrictions are placed on the property, these timing restrictions shall be added to the sequence of construction.
- 6.3 The Letter of Interpretation-Line Verification (LOI) for Lots 1 & 4 has an issue date of May 11, 2016, and the LOI for Lots 2 & 3 has an issue date of July 25, 2016. This is mentioned as a comment only. Extensions may be required from the NJDEP.
- 6.4 A large number of forested trees will be removed during the beginning stages of construction. Testimony is required as to the limits of the clearing (i.e. will it extend into the hotel phase of the project?).
- 6.5 We noted above that the subsurface investigation did not include a study of the fill material onsite. Has any investigation been performed to determine whether there are contaminated materials in that fill?
- 6.6 The applicant shall provide testimony as to the status of the cleanup underway on the easterly portion of the site in the area of the proposed townhouses. Specifically, will any of the installed monitoring wells impact the timing of construction of the infrastructure in that phase?

### **7.0 – TRAFFIC STUDY:**

- 7.1 We defer the technical review to the Board’s Traffic Consultant. We recall that there was discussion at one of the Technical Coordinating Committee meetings about placing the future restaurant inside of the future hotel. Is this still an option for discussion? Would this change in layout alter the results of the traffic impact analysis for the site upon full buildout? This applicant shall provide testimony regarding this.
- 7.2 This sight visibility profiles along Mountain Avenue are shown on the plans. While the Board’s Traffic Consultant has commented on the sight lines, we inquire as to whether an approaching vehicle, bicycle, or pedestrian will be hidden by the vertical alignment while looking south from the northerly driveway.

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- 7.3 The applicant's traffic engineer used manual turning movements for this base of the analysis. These counts were taken on June 11, 2019. Was school in session? This exit is commonly used by teachers, staff, and students to navigate to the Woodland School and the Watchung Hills Regional High School. If the answer is "no," would the applicant's traffic engineer change its findings with respect to the levels of service, and appropriateness of the driveways on Mountain Avenue?
- 7.4 Has the applicant's traffic engineer taken into account a full occupancy of the WCC office complex which shares the traffic signal on King George Road?
- 7.5 What is the sensitivity of the passby traffic percentage?

### **8.0 – ARCHITECTURAL PLANS:**

- 8.1 The architectural perspective and unit plans (3.17) received on January 27, 2020, show unit labels, square footages, and bedroom counts. These labels shall be clarified.
- 8.2 We understand that the Board has engaged an architectural expert to review the specifics of the architecture. We do note that Sketch C (3.8) shows a site layout that positions the townhouses along Mountain Avenue to have the sides of the structures visible from the street. The applicant shall discuss with and demonstrate to the board what the visual impacts of that arrangement would have on the views from Mountain Avenue.
- 8.3 The apartment building along King George Road is shown on a sketch (3.7) which has a perspective view. The four-story apartment building is proposed at fifty-seven feet (57') from the right-of-way line (approximately seventy-five feet from the curb line). While the ground elevations vary along the property and also King George Road, the perspective view shows that landscaping will obscure much of the building from the street view. The applicant's design team shall provide testimony regarding the height of the buildings with respect to King George Road and the height of the proposed landscaping.
- 8.4 The rear elevation of the building for the affordable units on Proposed Lot 1.04 will be in prominent view as one enters the parking area behind the apartment building. There is no landscaping proposed between the drive and the building. Is there an opportunity to improve upon the aesthetic view of the rear of that building?
- 8.5 The applicant shall testify as to the changes between the architectural plans submitted for the townhouses. We have two versions; one dated 9-6-2019 (3.6) and one dated 1-20-2020 (3.8). Discussion is required.

### **9.0 – MISCELLANEOUS:**

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- 9.1 We reserve the right to address future submissions with respect to this review memorandum, township ordinances, and outside rules and regulations as appropriate.

Please contact me if you have any questions or require further information.

[https://kastrudengineering-my.sharepoint.com/personal/ckastrud\\_kastrudengineering\\_com/Documents/Warren Township/Land Use Board CASES/PB 19-11 - Chase Partners/PB 2019-11 - Chase Partners, Block 85.01, Lots 1,2,3,4, Major Site Plan & Subdiv, 2020-04-14.docx](https://kastrudengineering-my.sharepoint.com/personal/ckastrud_kastrudengineering_com/Documents/Warren%20Township/Land%20Use%20Board%20Cases/PB%2019-11%20-%20Chase%20Partners/PB%202019-11%20-%20Chase%20Partners,%20Block%2085.01,%20Lots%201,2,3,4,%20Major%20Site%20Plan%20&%20Subdiv,%202020-04-14.docx)

Case Number: PB 19-11  
Common Name: Chase Partners & Pulte Major Site Plan and Subdivision  
Co-Applicants: Chase Warren Partners, LLC & Pulte Homes of New Jersey, LP  
Attorney: Keith A. Davis, Esq. (Nehmad, Perillo, Davis & Goldstein, PC)  
Civil Engineer: Ronald A. Kennedy, P.E., P.P. (Gladstone Design, Inc.)  
Application Received: November 1, 2019

### **List of Documents Received:**

#### **1.0 Correspondence**

- 1.1 Cover Letter from Davis to Vautin, 2019-10-30
- 1.2 Application for Prelim Major Subdivision – Applicant: Chase Partners Warren, LLC
- 1.3 Application for Prelim Major Subdivision – Applicant: Pulte Homes of NJ, LP
- 1.4 Application for Final Major Subdivision – Applicant: Chase Partners Warren, LLC
- 1.5 Application for Final Major Subdivision – Applicant: Pulte Homes of NJ, LP
- 1.6 Application for Prelim Site Plan – Applicant: Chase Partners Warren, LLC
- 1.7 Application for Final Site Plan – Applicant: Chase Partners Warren, LLC
- 1.8 Checklist for Prelim Major Subdivision – Applicant: Pulte Homes of NJ, LP
- 1.9 Checklist for Final Major Subdivision – Applicant: Pulte Homes of NJ, LP
- 1.10 Checklist for Prelim Major Site Plan – Applicant: Chase Partners Warren, LLC
- 1.11 Checklist for Final Major Site Plan – Applicant: Chase Partners Warren, LLC
- 1.12 Checklist Waiver Request – for all applications
- 1.13 PSE&G will-serve letter to Gladstone, 2018-08-01
- 1.14 JCP&L will-serve letter to Gladstone, 2018-08-18
- 1.15 Letter from Jim Mullen, Pulte to MEV, 2019-12-16 (fees)
- 1.16 Letter from Keith Davis to MEV, 2020-01-03 (fees)
- 1.17 Email from MEV to Keith Davis, 2020-03-16 (extension)
- 1.18 Letter from Keith Davis to MEV, 2020-03-20 (extension)
- 1.19 Letter from CMK, JCTIV to Keith Davis, 2020-01-08 (additional items requested)
- 1.20 Review Memorandum from WT Board of Health, 2020-02-06
- 1.21 WTS Resolution No. 18-30, 2018-03-12
- 1.22 WTS Resolution No. 18-50, 2020-06-13
- 1.23 WTS Letter to MEV, 2020-02-11
- 1.24 Review Memorandum from WT Fire Marshall to MEV, 2019-12-05
- 1.25 Review Memorandum from WT Fire Marshall to MEV, 2020-02-04
- 1.26 Review Memorandum from JTCIV to WTPB, 2020-02-23
- 1.27 Review Memorandum from Fishinger to MEV, 2019-11-27
- 1.28 Review Memorandum from Fishinger to MEV, 2020-02-25
- 1.29 Letter from Keith Davis to MEV, 2020-01-27 (additional items submitted)
- 1.30 Checklist for Prelim. Major Subdivision – Applicant: Chase – 7 Lot Subdiv.
- 1.31 Checklist for Prelim. Major Subdivision – Applicant: Chase – Townhouse Subdiv.

1.32 Letter from Dynamic Traffic to Gladstone, 2020-01-17 (addressing traffic)

1.33

## 2.0 Reports

2.1 Environmental Assessment Report prepared by EcolSciences, Inc., 2019-09-26 (unrevised)

2.2 Subsurface Investigation Report prepared by Melick-Tully & Associates, 2019-08-01 (unrevised)

2.3 Stormwater Management Report prepared by Gladstone, 2019-10-18 (unrevised)

2.4 Operations & Maintenance Manual prepared by Gladstone, 2019-10-18 (unrevised)

2.5 Traffic Impact Study prepared by Dynamic Traffic, 2019-09-18 (unrevised)

## 3.0 Plans

3.1 ALTA/ASCM Survey (1 sheet) prepared by DPK, 2016-03-11 (unrevised)

3.2 Topographic Map (1 sheet) prepared by DPK, 2015-06-01 (unrevised)

3.3 Preliminary & Final Major Sub Plat (2 sheets) prepared by Gladstone, 2019-10-18 (unrevised)

3.4 Preliminary & Final Major Site Plans (44 sheets) prepared by Gladstone, 2019-10-18 (unrevised)

3.5 Architectural Plans for Apartments (10 sheets) prepared by Lessard Design, 2019-10-25 (unrevised)

3.6 Architectural Plans for Townhouses (11 sheets) prepared by Pulte Homes, 2019-09-06 (unrevised)

3.7 Architectural addendum plans (5 sheets), (11"x17") prepared by Lessard Design, 2019-10-25

3.8 Concept Sketch C (8.5" x 11") prepared by Gladstone Design, 2020-02-18.

3.9 Architectural Plans for Townhouses (11 sheets) prepared by Pulte Homes, 2019-09-06 (revised 1/20/2020)

3.10 Subdivision Exhibit Plan (1 sheet) prepared by Gladstone Design, 2020-01-24 (unrevised)

3.11 Sheets 34, 35, 44 of Site Plan set prepared by Gladstone Design, revised 1/24/2020

3.12 Signage & Striping Plan (2 sheets) and Emergency Access & Truck Turning Plan (2 sheets) prepared by Gladstone Design, 2020-01-24

3.13 Walking Trails Exhibit (1 sheet) prepared by Gladstone Stone Design, 2020-01-24 (unrevised)