



Peer Review Comment Form

NO.	SHEET NO. / DOCUMENT / FORM	SECTION	GREEN'S COMMENT	Applicant's RESPONSE	CONFIRMED BY	DATE
APPLICATIONS						
1	Planning Board Form 1 Application	Part IV. Submittal Requirements Summary Table	The Zoning Summary Chart on Sheet C-5.0 (Site Plan) states that the Zoning District for the subject lot is Industrial A (IA). There is a zoning line depicted on the Site Plan that indicates a portion of the subject lot is located in the Residential Zone. The applicant should revise the Zoning Summary Chart to indicate both zones which the lot is located in.			
2	Planning Board Form 1 Application	Part IV. Submittal Requirements Summary Table	The Survey plan provided (4/26/22) lists the lot area as ±40.77 acres. The Zoning Summary Chart of Sheet C-5.0 lists the lot area as 42.52 acre. The applicant should provide more background on this discrepancy.			
3	Planning Board Form 1 Application	Part IV. Submittal Requirements Summary Table	The Bulk Requirements Tables on Sheet C-5.0 lists the maximum height of a principal building and the proposed building height. No existing building height is provided. The applicant should provide the existing building height for comparison to the proposed building.			
4	Planning Board Form 1 Application	Part IV. Submittal Requirements Summary Table	The plans callout a proposed retaining wall, and note the wall length and height is several locations. The plans do not specify material of the wall. The applicant should provide this information on the plans.			
5	Planning Board Form 1 Application	§173-27 & §173-31 Intensity of Use Regulation	The "Greater Building Height Approved" checklist item is checked. Based on the provided site plan, the proposed building height is 32 feet, and within the Industrial A (IA) zone, 40 feet is allowed. The applicant should uncheck this item or explain otherwise.			
6	-	§173-88.C.4.	Since the project is considered "major" per 173-86 by exceeding 50,000 square feet, an analysis of the consequence of the proposed development should be submitted to the Planning Board. The analysis should evaluate the criteria listed in 137-88.C.4.			
SITE PLAN						
7	C-3.0 Erosion Control Plan	§38-16.C.7.	The applicant should depict material stockpiling areas on plan and means for containing stockpiled materials to prevent transport of sediment during construction and rain events.			
8	C-5.0 Site Plan	ADA Standards	The proposed ADA parking space behind the existing building appears to have compliant cross-slopes. There is no proposed grading shown in front of the existing building, and the ADA parking space in that area appears to have a cross-slope greater than 2.0%. The applicant should provide shot grades near the ADA space in front of the building to confirm the parking space meets ADA standards, and if not, additional grading should be shown.			
9	C-5.0 Site Plan	ADA Standards	The applicant should call out ADA entry ways for each building and depict ADA compliant paths of travel to each entry.			
10	C-5.0 Site Plan		The applicant should depict snow storage locations on the plan, if any areas are planned to be used as snow storage.			
11	C-5.0 Site Plan	-	A callout is shown for a light pole in front of the existing building near Newtown Road. This light pole is not shown on the Site Plan or the Photometrics Lighting Plan. The applicant should update plans for consistency.			
12	C-5.0 Site Plan	§173-18.D.	The proposed drive aisle between the existing and proposed buildings comes to a dead end near Newtown Road. The drive aisle road width transitions from 40 feet to 13.1 feet near the existing cement concrete retaining wall, which appears to funnel into a turnaround area. The applicant should provide a vehicle turning movement plan to show there is adequate space for vehicular movement through the site and for turnaround purposes at dead end locations.			
13	C-5.0 Site Plan	§173-18.D.	Per correspondence received from the Planning Board, Littleton's Interim Fire Chief has requested a second means of egress from the property to alleviate concerns with fire truck access and turnaround maneuverability. The applicant should provide a second means of egress for the site and work with the Fire Department to address their comments.			
14	C-5.0 Site Plan	-	Within the Bulk Requirements table depicted on the Site Plan, the required minimum front yard setback is 80 feet. The proposed front yard setback provided is 100 feet. The applicant should provide a dimension on the Site Plan that depicts the distance from the front property line to the nearest proposed structure.			
15	C-6.0 Grading & Drainage Plan	§173-18.E./§249-85.B.1.	The proposed 12" RCP drain line entering manhole ST-2 from the north (coming from ST-4) appears to only have roughly 12" of cover. Per Zoning bylaw requirements, cover should be increased to a minimum of 18" in all locations. If 18" of cover can not be provided, the pipe shall be ductile iron Class 52 or thicker at these location. Also, consider constructability issues of entering a manhole with cover less than 2.5' of cover. Will top slab thickness or frame height be reduced to atypical heights to accommodate the shallow pipe?			
16	C-6.0 Grading & Drainage Plan	-	Proposed catch basin ST-4 is positioned in the center of a drive aisle. Based on existing contour data in this area, it does not appear that this inlet will capture all of the drainage running down the driveway from north to south, as indicated by the subcatchment area (Post-1) depicted on the Proposed Condition Drainage Map. As a result, additional runoff may bypass this inlet and continue down the drive aisle to proposed catch basin ST-5. The applicant should revise the Drainage map or propose additional pavement grading to ensure runoff if directed to the center of the drive aisle where the basin is currently located.			



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17	C-6.0 Grading & Drainage Plan	-	The proposed drainage outfall will require excavation within the existing leach field system. The plans noted that it will be abandoned but it appears it will need to be partially removed to install the outfall. Please clarify.			
18	C-6.0 Grading & Drainage Plan	-	In some paved areas between the proposed and existing buildings, the drive aisle slope exceeds 10%. The applicant should consider reducing the slope if feasible. In the paved turnaround area near Newtown Road, the paved slope is very steep, 2:1 in one area. The applicant should revise grading to alleviate excessive slope.			
19	C-6.0 Grading & Drainage Plan	-	A building door is depicted on the north side of the proposed building. The means of egress appears to lead to a grassed area and then a 6" curb step down to pavement in the drive aisle. Please consider a landing pad or sidewalk leading to the parking at the bottom of the stairs.			
20	C-6.0 Grading & Drainage Plan	-	The applicant should consider additional safety measures to protect pedestrians from traffic pulling into the adjacent loading zone.			
21	C-6.0 Grading & Drainage Plan	-	Proposed drainage ST-3 is a proprietary pretreatment drainage manhole. Based on the detail provided, the sump of the manhole must be 5.92 feet below the lowest pipe invert. The structure rim elevation is set at 288.77' and the invert out is set at elevation 276.00' and therefore the sump elevation must be set at a minimum of 270.08'. This means the structure will be a minimum of 18.69 feet tall from rim to sump. The applicant should confirm with the manufacturer that this height is acceptable and if any special requirements are needed to maintain structural integrity such as wall thickness or anti floatation collar.			
22	C-6.0 Grading & Drainage Plan	-	The structure table provided lists pipe invert elevations for each structure. More information should be provided that clearly states which structure the inlet pipe is coming from, and which structure the outlet pipe is going to, especially in cases where a structure has more than one inlet connection.			
23	C-6.0 Grading & Drainage Plan	-	The slope off the back of the proposed building is labeled as 2.0% in most locations. However, the grade appears to drop a foot from elevation 277.00 to 276.00 in most locations, over a span of roughly 10 feet horizontally. This would result in a grade of approximately 10.0%. The applicant should revise slopes for plan consistency and consider reducing this slope.			
24	C-6.0 Grading & Drainage Plan	-	The applicant should explain how the proposed roof is drained and where runoff is being routed to. The architectural plans show that the entire roof area is sloped towards the front of the building (at 2.0%) but no gutter system is depicted on the drainage plans.			
25	C-6.0 Grading & Drainage Plan	-	A proposed retaining wall is called out on the plan, with a length of 172 LF and maximum height of 6 feet. Contours are depicted inaccurately along the top of wall and no wall construction detail is provided on plan. The applicant should correct the proposed contours within the wall limits and provide a structural detail for the retaining wall.			
26	C-7.0 Utility Plan C-8.0 Construction Details	-	A fire hydrant detail is provided on sheet C-8.0; however, sheet C-7.0 does not call out or depict a new fire hydrant. There does appear to be an existing fire hydrant located on Newtown Road in front of the existing building. The applicant should clarify if a new hydrant is being proposed on-site and also how the new building is being fire protected. The fire hydrant location should be coordinated with the Fire Department.			
27	C-7.0 Utility Plan & Existing Conditions Plans	-	On sheet C-7.0, an existing sanitary sewer service is shown exiting the back (southeast) side of the existing building and connection to a proposed structure labeled "ST1". This existing service is not shown on the Existing Conditions Plan. The applicant should review this discrepancy and add the existing service to the Existing Conditions Plan, if verified. Invert elevations should also be provided to help identify potential utility crossing conflicts.			
28	C-7.0 Utility Plan	§173-18.E/§249-85.E.2.	The proposed 6" DI water main appears to run parallel to the existing sanitary sewer service located behind the existing building, for a length of approximately 13 feet. At this occurrence, there is only 7.5 feet of horizontal separation between the two utility lines. The applicant should provide a minimum of 10 feet of horizontal separation.			
29	C-7.0 Utility Plan	§173-18.E/§249-85.E.3.	At crossings, one full length of water pipe shall be located so both joints will be as far from the sanitary sewer as possible. The applicant should revise plan to ensure water joints are located further from sewer lines at crossing locations.			
30	C-7.0 Utility Plan	§173-18.E/§249-85.E.3.	A proposed drain line (between ST-1 and ST-2) crosses an existing sanitary sewer line. The applicant should confirm there is no conflict where these two gravity line utilities cross and that a minimum of 18" vertical separation is maintained, or encasement is specified.			
31	C-7.0 Utility Plan	§173-88.C.3.	The applicant should coordinate with the Water Department to confirm there is adequate capacity to meet the proposed building domestic water demand.			
32	C-7.0 Utility Plan	-	No sanitary sewer services are depicted on the plans for the proposed building. The applicant should confirm that no sanitary lines are required for the proposed building.			
33	C-7.0 Utility Plan	-	Proposed electrical and gas service for the new building should be shown on the plans.			



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34	C-7.0 Utility Plan	-	The plans call for a new tee instead of a tapping sleeve and valve at the water connection in the street. But details show a tapping sleeve and valve. Please clarify. A cut in tee will require a shut down of the main. Has this connection been coordinated with the Water Department?			
35	C-8.0 Construction Details	-	Please correct the spelling of the Pavement Section detail.			
36	Construction Details	§173-18.E/§249-85.E.3.	At water and sewer utility crossings, a callout is provided specifying minimum vertical clearance, and encasement if sewer is laid over water. No encasement detail is provided within the Construction Details. The applicant should provide this detail on the plans, consistent with Figure 5 of Littleton's Subdivision of Land Regulations Article IV, in the case that encasement is required.			
BYLAWS						
37	C-2.0 EC & Demo Plan	§171-1.D.	Although the proposed development is mostly located outside of the wetland buffer zone on the subject property, the limit of disturbance (LOD) line depicted on the plans does cross over the 100' wetland buffer line in several areas, which appears to be related to required grading on the steep slope behind the proposed building. Therefore, this shall be reviewed by the Conservation Commission.			
MAJOR COMMERCIAL OR INDUSTRIAL USE SPECIAL PERMIT REQUEST						
38	C-2.0 EC & Demo Plan	§173-88.B.4.	Based on the tree removal line, a large quantity of trees will be removed as part of this development. The number of trees to be removed and the type of trees to be removed is not specified on the plan. This makes it difficult to assess the degree of threat to environmental resources, including loss of valuable trees and vegetation, and disturbance to habitats. We defer to the Planning Board on this matter, and whether additional information will be required.			
STORMWATER REPORT						
39	HydroCAD Routing Diagram	MA Stormwater Handbook Vol 2 Chapter 2 Deep Sump Catch Basin Design	Since individual drainage structures are not modeled as pond nodes within the HydroCAD model, it is difficult to determine the amount drainage catchment area flowing to each of the proposed inlets. The MA Stormwater Handbook recommends that the contributing area to a deep sump catch basin should not exceed 1/4 acre. The applicant should confirm this design criteria is being implemented and should indicate which catchment areas are draining to which inlet structures (i.e., where is the roof area draining).			
40	Rainfall Data	-	On recent past projects the Conservation Commission requested the use of NOAA Atlas 14 rainfall data. The applicant has only stated that design storm depth is determined from rainfall maps based on the return period being modeled. Please use the most conservative rainfall data.			
41	HydroCAD Output Data C-6.0 & C-9.0	-	The outlet control structure for the subsurface system appears to be labeled as ST-8 on the Grading & Drainage Plan but it is not labeled. The 15" invert out elevation specified in the structure table is 266.00, which coincides with the HydroCAD model. The outlet control manhole detail lists an invert out elevation of 269.00. The applicant should revise plan for consistency and identify the OCS on the G&D plans.			
42	HydroCAD Output Data C-9.0	-	Invert elevations shown on the outlet control structure detail are not consistent with HydroCAD model for Pond 5P (i.e., weir elevation, orifice elevations, outlet elevation). The applicant should revise plan or HydroCAD for consistency.			
43	Proposed Condition Drainage Map	-	The proposed roof is depicted as a separate catchment area. The HydroCAD diagram shows the roof is routed to the StormTech system. The applicant should provide more information related to how the roof drainage is routed to the StormTech system.			
44	HydroCAD	-	The applicant should provide node summary tables that list additional information for each subcatchment and pond in pre and post-development conditions (i.e., Tc values, CN values, warnings). Also, we recommend pre and post-development output data be separated into two sections.			
45	Stormwater Report	2.4 - Prop. Stormwater Improvements (Within SW Report)	The narrative states that an infiltration test is scheduled to be performed in late spring. Please advise if the infiltration testing was performed and if so, provide the results to confirm the design infiltration rate is adequate. If a test pit was performed as part of the infiltration testing, please provide soils data as well.			
46	Boring Plan/Logs	§38-17.C.5. MA Stormwater Handbook Vol 2 Chapter 2	The majority of borings were performed in the location where the subsurface infiltration system was originally proposed (under paved drive aisle). Now that the subsurface system has been relocated to an area behind the proposed building, none of the performed borings fall within the BMP footprint. To determine a more accurate estimated seasonal high groundwater elevation below the BMP footprint, we recommend that an additional boring or test pit be performed. Per the MA Stormwater Handbook, it is recommended that for infiltration practices, one soil boring or test pit should be performed for every 5,000 square feet of basin area.			
47	StormTech Design	MA Stormwater Handbook Vol 2 Chapter 2 Infiltration Basin Design Criteria	Infiltration basins should not be placed over fill materials. According to the Grading & Drainage Plan, the StormTech system is located entirely in a fill area, in some location with as much as 5 feet of fill. The applicant should advise on why the subsurface infiltration system was relocated from the existing paved area (which was not a significant fill area) to behind the proposed building in a less suitable area.			



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48	StormTech Design	MA Stormwater Handbook Vol 2 Chapter 2 Infiltration Basin Design Criteria	Infiltration basins should be located a minimum of 50 feet from and slope greater than 15%. The entire proposed subsurface infiltration system is located adjacent to a 3:1 slope dropping roughly 15 feet. Are there concerns of potential break out being close to the steep slope?			
49	Required Dedicated Recharge Volume	MassDEP Stormwater Standards	The required recharge volume is calculated based on a total impervious area of 94,622 square feet. The applicant should provide subcatchment node summary tables from HydroCAD for post-development conditions to verify the total impervious area.			
50	Stormwater Report C-8.0	3.4 - Standard #4 Water Quality (Within SW Report)	The narrative states that stormwater drainage is conveyed through deep sump hooded catch basins. No hood is depicted on Precast Concrete Catch Basin detail, and there are multiple dimensions shown for sump depth. The applicant should revise this detail to show hoods and specify that deep sumps are to be used, if credit is being taken for pretreatment.			
51	Stormwater Report	Mass SW Handbook Standard 4	The required water quality volume is 7,855 cf (0.18 ac-ft). Per the provided stage-area-storage table for Pond 5P, this storage volume is provided at elevation 271.45. The lowest outlet to the BMP is set at elevation 268.00. The WQV should be provided from the bottom of the BMP to the lowest orifice invert. The applicant should revise system to treat the required WQV.			
52	Stormwater Checklist		Stormwater checklist shall be signed and stamped by a registered professional engineer.			
53	Recharge Calcs/Stormwater Checklist	Mass SW Handbook Standard 3	Is the entire required impervious area being sent to the subsurface system to be recharged? This is not indicated in the SW checklist. If the entire required impervious area is not being sent to the subsurface system then a capture area adjustment must be performed to calculate the require recharge volume.			
54	Recharge Calcs	Mass SW Handbook Standard 3	Please provide drawdown calculations to show the proposed BMP will fully drain within 72 hours.			
55	C-9.0 Construction Details	-	The applicant should provide backup water quality flow calculations to verify that the First Defense High Capacity pretreatment system is sized adequately.			
O&M PLAN						
56	-	§38-18.B.3.	The O&M Plan shall be signed by the owner.			
57		§38-18.B.2.	The First Defense - High capacity pretreatment drainage structure should be added to the O&M. The manufacturer's operation & maintenance manual should be included in the O&M plan.			
58	Stormwater Management Practices Descriptions	-	Mention of the StormTech Isolator Row should be removed from maintenance tasks as no isolator rows are being proposed as part of the system for pretreatment.			
59	Stormwater Management Practices Descriptions	§38-18.A.	For the snow removal maintenance task, it's stated that snow should be removed from the site as it accumulates, and that there is no Snow Storage Plan for the site. The applicant should provide more information regarding the anticipated snow removal operations for the site and describe the mechanism for implementing and enforcing removal to coincide with the O&M plan. The Planning Board may require additional information as to where the snow is being transported to off-site.			
60	Proposed Condition Drainage Map	-	The Proposed Conditions Drainage Map provided in the O&M Plan depicts an older drainage design. The applicant should replace with the current post-development drainage map.			
TRAFFIC / TRIP GENERATION STATEMENT						
61	2	TRIP GENERATION	The trip generation calculation follows ITE standards. We concur with the methodology and no further information is needed.			
62	4	SITE PLAN	The site plan currently shows the BFA of the existing building. For consistency, please add the GFA of the existing building on the site plan as shown on Table 1: Trip Generation (62,054 SF).			
63	4	SITE PLAN	Per the Town of Littleton Bylaw 173-32 Section B14, the minimum off-street parking requirement for this kind of facility is 30 spaces. The site plan currently shows 30 spots for vehicles. Per ADA Standards, the minimum ADA-complaint parking requirement for a lot size of 26 to 50 is 2 spaces. The site plan currently shows 2 ADA-compliant spots for vehicles. We concur with the site plan and no further information is needed.			
64	4	SITE PLAN	The western corner of the site plan shows a 13.1 foot wide area for the driveway. Please specify if vehicles will have access to this area and if they can turn around properly to exit the site.			