LEE'S SUMMIT
MISSOURI

DEVELOPMENT SERVICES

Commercial Final Development Plan
Applicant's Letter

Date: Wednesday, January 30, 2019

To:

Property Owner: PHILLIPS REIS LLC	Email: Fax #: <NO FAX NUMBER>
Applicant: DAN PHILLIPS	Email: Fax #: <NO FAX NUMBER>
Engineer: HG CONSULT, INC	Email: KSTERRETT@HGCONSULT.COM Fax #: <NO FAX NUMBER>

From: Hector Soto Jr., Planning Division Manager

Re:

Application Number:	PL2019010
Application Type:	Commercial Final Development Plan
Application Name:	HT SOLUTIONS BUILDING EXPANSION
Location:	1440 SE BROADWAY DR, LEES SUMMIT, MO 64081

Electronic Plans for Resubmittal

All Planning application and development engineering plan resubmittals shall include an electronic copy of the documents as well as the required number of paper copies.

Electronic copies shall be provided in the following formats:

- Plats – All plats shall be provided in mulit-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in multipage Portable Document Format (PDF).
- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in multi-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact Staff with any questions or concerns.

Excise Tax

On April 1, 1998, an excise tax on new development for road construction went into effect. This tax is levied based on the type of development and trips generated. If you require additional information about this development cost, as well as other permit costs and related fees, please contact the Development Services Department at (816) 969-1200.

Review Status:

Revisions Required: One or more departments have unresolved issues regarding this development application. See

comments below to determine the required revisions and resubmit to the Development Services Department. Resubmit six (6) full size sets of plans (no larger than 24"x36") folded to 8-½"x11", four (4) copies of the comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated above. Revised plans will be reviewed within five (5) business days of the date received.

Required Corrections:

Fire Review	Jim Eden (816) 969-1303	Assistant Chief Jim.Eden@cityofls.net	Corrections

1. All issues pertaining to life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to the safety to fire fighters and emergency responders during emergency operations, shall be in accordance with the 2012 International Fire Code. The 2018 International Fire Code will be in effect April 1, 2019.

What is the use of the new addition?

2. IFC 903.3.7 - Fire department connections. The location of fire department connections shall be approved by the fire code official. Connections shall be a 4 inch Storz type fitting and located within 100 feet of a fire hydrant, or as approved by the code official.

Action required: Provide a Utility Plan for review. If the fire protection for the new addition is ging to be extended off of the existing riser, a second FDC is not required

3. IFC 503.2.1 - Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

Action required: The entrance to the fire lane shall be 20 feet.

4. IFC 503.2.3 - Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

5. IFC 503.3 - Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Action required: The choke points on the east fire lane shall be posted.

6. IFC 507.5.1 - Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

Action required: Move the proposed hydrant closer to the entrance.

Traffic Review	Michael Park	City Traffic Engineer	Corrections

	(816) 969-1820	Michael.Park@cityofls.net	

1. Parking proposed along the north side of the building should be angled to reinforce the one-way traffic pattern.

2. An amended plat (minor plat) should be submitted to remove the restriction of direct access proposed along Hamblen Road (Lot 292 Only). The proposed exit only driveway along Hamblen Road for Lot 292 is supported only due to the absence of required minimum area necessary for semi-tractor trailer circulation on-site, considering the necessary business/design vehicle accommodation, restrictive easements (e.g. sewer, stream buffer, storm water management, etc.), Access Management Code review, anticipated traffic volume upon said driveway, limited access (exit only), and other factors.

Planning Review	Hector Soto Jr. (816) 969-1238	Planning Division Manager Hector.Soto@cityofls.net	Corrections

1. ACCESS RESTRICTION. As part of this review, it was discovered that the plat for this property includes an access restriction note that does not allow for the proposed drive onto SE Hamblen Rd. This property will need to be re-platted via minor plat in order to remove the access restriction currently in place on the lot.

2. DRIVEWAY WIDTH.
- The new driveway access onto SE Broadway Dr is labeled as 27' from back-of-curb to back-of-curb. A mininum 28' is required so as to provide the required 24' width of driveable pavement width (exclusive of curb and gutter).
- The proposed north-south drive aisle for the new parking lot area on the south side of the site is shown as 25.5' from back-of-curb to the end of the striped parking space. A minimum 24' of pavement width (exclusive of curb-and-gutter) is required.

3. EASEMENT. Label the 15' U/E along the cul-de-sac bulb.

4. LANDSCAPING. The Landscape Plan shows the proposed deciduous trees as being 2" caliper. The minimum caliper size for deciduous trees is 3". Revise.

5. MECHANICAL UNIT SCREENING. The site plan shows new ground-mounted mechanical units on the east side of the building. No screening of said units is indicated. Ground-mounted mechanical units shall be fully screened from view using evergreen landscaping or masonry walls at least equal to the height of the mechanical units.

Engineering Review	Gene Williams (816) 969-1223	Senior Staff Engineer Gene.Williams@cityofls.net	Corrections

1. The plan was incomplete, and as such, this review is cursury in nature. For instance, a detailed grading plan showing any off-site grading was missing, the stormwater detention study was missing several key elements, profile views of the stormwater system were missing for pipes greater than 6 inches diameter, profile view of the proposed retaining walls, and several key elements of the plan were shown on the "Site Dimension Plan" sheet, with no other reference to these key features shown anywhere else within the plan set.

2. "Storm Water Drainage Report" dated Jan. 8, 2019 (hereinafter referred as "the detention study"): the following items were missing: 1) inflow hydrographs entering the basin, 2) an analysis of the composite curve number for the site, (i.e., only an exhibit showing a soil group was presented), 2) time of concentration analysis and calculation, 3) an existing condition drainage map with points of interest, (i.e., rather, a diagram showing an poorly-defined set of drainage areas, with no points of interest was shown), 4) a proposed drainage area map, with points of interest, 5) an

analysis of the allowable release rate for the site, based on the existing condition drainage to the various points of interest or a point of interest, as applicable, 6) a coherent discussion within the body of the report which clearly shows the methodology used, the assumptions made, the calculations described, and a discussion of whether the detention basin will or will not comply with Section 5600 "Comprehensive Control Strategy" contained within the Design and Construction Manual, including any requested waivers to the Design and Construction Manual for any aspect of stormwater detention or detention basin design, 7) conclusion section of the report was missing, 8) drainage area calculations, 9) flows, 10) inlet sizing, 11) water quality calculations, 12) emergency spillway discussion, 13) emergency spillway design, and 14) calculation of the nominal condition 100 year water surface elevation in relation to the 0.5 foot freeboard requirement between it and the emergency spillway, and the 100% clogged/zero available storage condition 100 year water surface elevation in relation to the emergency spillway, including the 1.0 foot freeboard requirement between the top of the dam and the clogged condition water surface elevation.

3. The body of the detention study states in Section 7 "...see the attached for drainage area calculations, flows, pipe sizing, inlet sizing, and water quality calculations for Phase 2". We do not see any of these included within the report.

4. Section 5 of the detention study states that "...this new drainage system generates a 10 year flow of 4.45 cfs and a 100 year flow of 7.99 cfs pre-developed". What does this mean? Appears contradictory in nature. Do you mean to say "the existing flow to point xxx is xxx? Is the report attempting to describe the post-developed peak flow rates to the detention basin?

5. The detention study includes within the appendix a "Composite Outlet Structure Detailed Report: Composite Outlet Structure -1" on page 5 of 17. The printout includes a 24 inch riser within the calculations, even though this riser is connected to an 8 inch outlet pipe. It would appear there is a discrepancy since you cannot use the results of a 24 inch pipe when it is connected to an 8 inch pipe (i.e., the 8 inch pipe will govern?).

6. There appears to be no fall between the upstream end of the water quality opening and the downstream flowline. It appears this is shown as 985.5. How will this drain properly?

7. Please review the guidance that was previously provided to you concerning the preparation of an acceptable stormwater study. Although this is a small site in relative terms, it still must be prepared in a coherent and defendable manner, and as presented, would not meet these standards.

8. Sheet 3 of 8: Why are key elements of the Final Development Plan included on a "Site Dimension Plan"? Although this sheet is important, a separate plan sheet should be provided (i.e., perhaps "Overall Site Plan", or equivalent). Typical pavement sections, fire hydrants, curb openings, and retaining walls are shown, which would be more appropriate on an "Overall Site Plan".

9. Where are you proposing to place heavy-duty pavement (i.e., pavement for delivery traffic, emergency vehicles, and fire department)? Typical sections are provided, leaving the contractor and inspector with no further information on where the limits of the heavy-duty pavement ends/begins, or where the normal asphalt ends/begins.

10. A new fire hydrant is shown on Sheet 3 of 8. Where is the existing valve that we currently show as an existing feature? In addition, where is this new fire hydrant located in relation to the drainage swale? It cannot be located within the limits of the swale.

11. Sheet 3 of 9: A new fire hydrant is called-out, but no reference to a specific detail and sheet number is provided. Nor were any specific details for the fire hydrant called-out in the plans. These items must be provided.

12. Sheet 3 of 8: The new entrance must call-out "KCMMB concrete entrance, see detail xx on Sheet xx", or equivalent language. As presented, there are no references to any standard drawings on this sheet, with only an implied reference.

13. Various Sheets: A retaining wall is called-out in several locations, with no profile or section view of the final product. Although it is acceptable to submit engineering drawings for these features to be reviewed and approved at a later date, a rendering of all retaining walls is required. In addition, elevation call-outs must be provided for the top of the wall, the bottom of the wall, and distances from the top of the wall to any walking surface.

14. Sheet 3 of 8: A leader line with the words "270 feet retaining wall" is shown, but it is not clear where it is pointing. Arrowheads are obscured by a line around the detention basin.

15. Where are the downspouts being routed? A plan view showing the routing of these features is required, given the nature of detention basin, and its ability to capture stormwater on the site. Any downspouts routing that is not captured by the detention basin must be properly accounted in the revised detention study. And as always, any storm line greater than 6 inches in diameter must also include a profile view.

16. Grading Plan: It is not possible to provide detailed comments on the grading plan since no off-site existing contours were provided to show how the proposed grading will impact off-site properties, or how the grading will impact the creek. Provide sufficient elevation contours along the eastern edge of the project so City staff can provide an adequate review to determine if there are any negative off-site impacts, and also to determine if the design is adequate to address the discharge to the creek with minimal impact.

17. Grading Plan: There are numerous proposed elevation contours along the eastern edge of the project which are greater than 3:1 slope. This is not allowed by the Design and Construction Manual.

18. The discharge of the detention basin is shown over the existing public sanitary sewer. A profile view (i.e., requested in previous comments) is required to evaluate the impact of this proposed alignment.

19. Sheet 4 of 8 appears to show bypass discharge from the east side of the building, and discharging at a flared end section of a 12 inch RCP pipe. Why is this flow not being captured by the detention basin? Why was this not discussed in the report?

20. The grading plan appears to show zero slope in the bottom of the detention basin. A minimum 2.0% slope is required in all directions, preferably more slope. In addition to contours, a label is required with a slope call-out. The slope call-out should be shown to the nearest tenth of a decimal place.

21. Will the detention basin be surrounded by a retaining wall? If so, it appears a railing is necessary due to the proximity to walking surfaces (i.e., the parking area)? Please call-out the safety railing at all necessary locations, including the material to be used. If a vertical drop of 30 inches or more will exist at a horizontal distance of 10 feet or less, a safety railing is required.

22. Please provide labels showing the sizing of all public water and public sanitary sewer lines.

23. It is not possible at this time to evaluate the method used to daylight stormwater into the creek at the unlabeled flared end section to the northeast of the detention basin. Without contours showing the location of the creekbank, the creek, etc., no comments can be provided either on the location of the discharge point, or the method used for energy dissipation.

24. Calculations are required for all rip rap placement, if used. The plan view may reference a typical detail elsewhere in the plans, but the plan view must specify rip rap in normal terms. As shown, there are contradictions on

what you are proposing (e.g., 6 inches of rip rap is specified at the end of the the unlabeled FES to the northeast of the detention basin, but the next line shows 12 inches thickness).

25. The rip rap design in the detention basin appears inadequate to manage the supercritical flow condition for this discharge. According to your flowline out and discharge point, it appears this pipe is being laid at 5% slope. The rip rap (i.e., no design provided, merely an outline of what is presumed to be rip rap) is shown on a 3:1 slope, and it is doubtful this will effectively manage the flow conditions at this discharge point. Again, calculations are required for all points of discharge, including any points where rip rap is not being proposed.

26. How will maintainence equipment access the detention basin? It appears no access is provided.

27. The emergency spillway mentioned elsewhere in these comments was missing.

28. No anti-clogging measures were provided for the 3 inch orifices, nor the top of the 24 inch riser pipe. In accordance with Section 5600 of the Design and Construction Manual, anti-clogging devices must be provided.

29. Was there any consideration to providing an anti-vortex device on the top of the 24 inch riser?

30. The outlet structure is not built to withstand vandalism. Other facilities have typically used a hardened structure using heavy-duty concrete, and it appears this particular design is lacking from a durability standpoint. Typical design criteria used by designers of these facilities always consider vandalism and the "attractive nuisance" aspect of this sort of design.

31. Sheet 6 of 8: What is meant by the note "Detention release was sized...to release the 100 year storm event over the proposed channel."? This statement should be clarified since the interpretation can mean any number of things, depending on how it is viewed by the reader. In other words, it does not make sense.

32. The "2' concrete flume" described on the dimension sheet is not defined anywhere else in the plan set. If used, it must be defined on the other sheets, where this particular feature is most relevant (i.e., it really belongs on a stormwater sheet, general layout sheet, grading sheet, etc.). The bigger question, however, is whether a two-foot concrete flume is appropriate. Flow will be supercritical as it makes its way to the detention basin, and severe erosion will likely result. It is also possible the retaining wall will fail if allowed to freely cascade over the retaining wall.

33. If used, where is the detail for the 2 foot concrete flume? Also, why is the detail not referenced on the plan view in accordance with generally-accepted drafting standards? Please see previous comment, however. We do not believe a 2 foot flume is appropriate to manage stormwater for this site.

34. Landscape Plan Sheet: The wrong location is shown on the title block.

35. Off-site private easements will be required prior to approval of this Final Development Plan.

36. An Engineer's Estimate of Probable Construction Costs should accompany your final submittal drawings.

37. A SWPPP is required prior to approval.

Building Codes Review	Joe Frogge (816) 969-1241	Plans Examiner Joe.Frogge@cityofls.net	No Comments