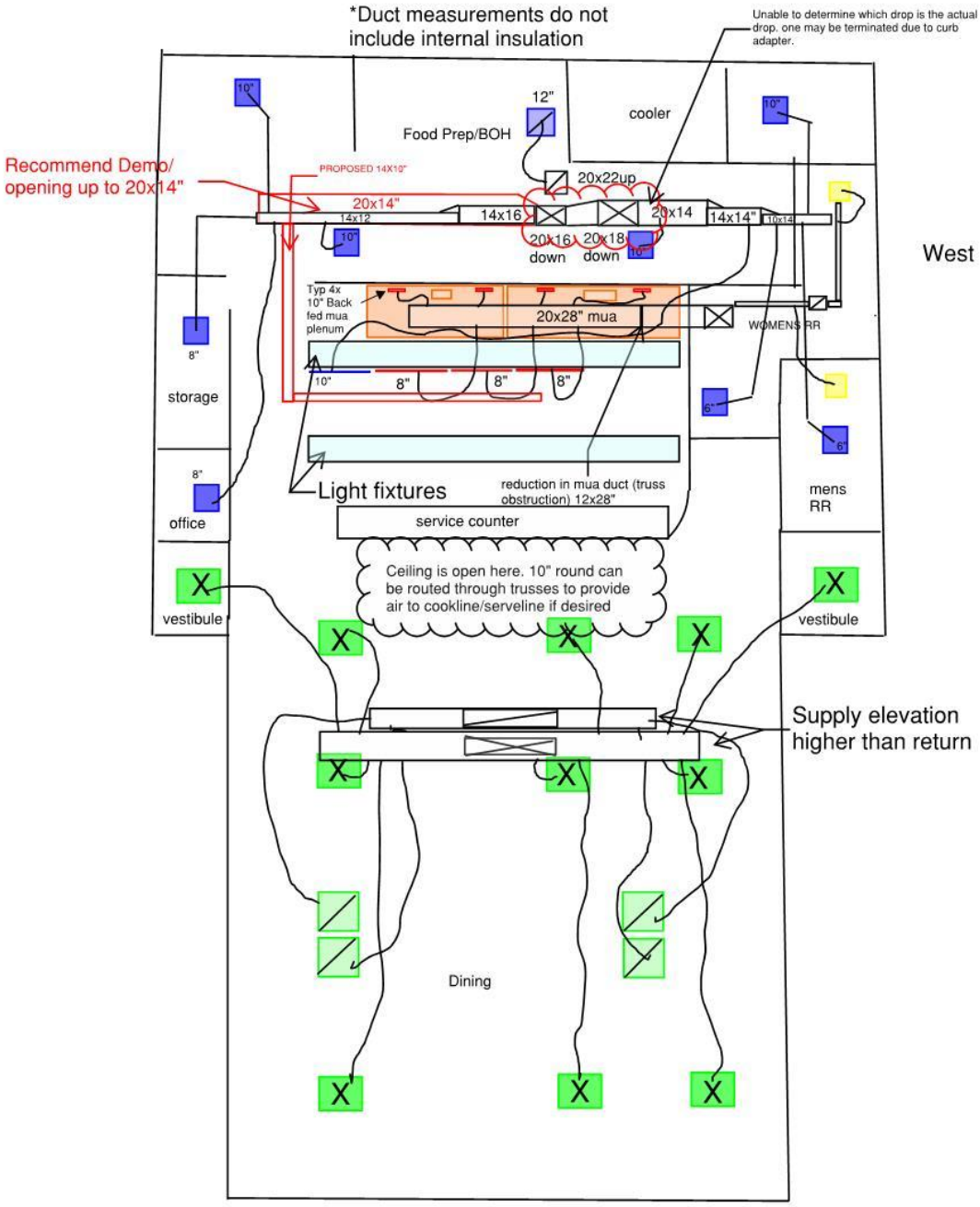
Summary:

The purpose of the return to Five Guys #0233 Lancaster, PA is to determine current ductwork configurations and limitations in hopes of finding a way to get conditioned air onto the cookline. NTAB found that from the West end of the building to the left end of the hoods there are obstructions preventing any further routing of ductwork to the Cookline. The only way to get conditioned air from the Kitchen AC unit would be to add a no larger that 10”X14” duct (due to Truss opening limitations) connecting from the main trunkline and routing it above the doorway, have a 90 degree elbow that runs parallel to the hood. This configuration would allow for multiple connection points to new linear diffusers, Note that between the serve counter lighting and existing MUA linear diffusers there is plenty of space above ceiling. For optimal performance it is recommended that the existing supply trunk be opened up to 20X14” to allow for maximum flow to the new and existing ductwork. Existing MUA linear diffusers would have to be rotated 180 degrees to prevent spacial conflict with new conditioned air linear diffusers.

It would be possible to route ductwork from the dining room to the cookline/serve line but this would not be optimal since the dining heat load is not the same as the kitchen.

See Below for the existing store layout and pictures for reference.

see Exisitng Layout:



New duct connection point: Note Existing flex will obstruct and needs to be rerouted.

Room To Demo existing trunk and expand to 20X14 or greater: There is no limitation horizontally.

New L-shaped duct: Route through Truss' and elbow into open ceiling area parallel to hood/existing linear diffusers.

Run Duct Parallel to hood/existing linear diffusers: Flex in new linear diffusers next to existin MUA linear Diffusers.

Existing Linear diffusers: Stack new linears next to existing linears.

Existing Linears need to be rotated 180 Degrees: Current flex configuration would interfere with new linear diffusers.

Note: There is a lot of space above ceiling from the dining room Supply ductwork to the serveline and cookline. While not optimal for cooling the cookline it would be a way to get more airflow to the cooking area. This could be done by running 10” ducts from the supply over to the kitchen through truss work.

Dining Supply trunk hugs the roof deck, could route 10” hard pipes through truss’ to Tap ductwork:

Dining room ceiling is open with lots of space:

From Dining room To service are is also very open and spacious: You can see pictured is the three flex ducts for the MUA linear diffusers in front of the hoods