

POE HALL DUCT REPLACEMENT

CODE REVIEW

EXISTING CONDITIONS

OPTIONS



POE HALL DUCT REPLACEMENT

CODE REVIEW

TWO HOUR RATED FLOORS
TWO HOUR SHAFT CONSTRUCTION
NON-SPRINKLED BUILDING



POE HALL DUCT REPLACEMENT

Existing Conditions

TWO HOUR RATED FLOOR: CODE VIOLATION.

4" DUCT PENETRATIONS THROUGH THE FLOOR
ARE NOTED PROTECTED. FIRE DAMPER IS
REQUIRED BY CODE.

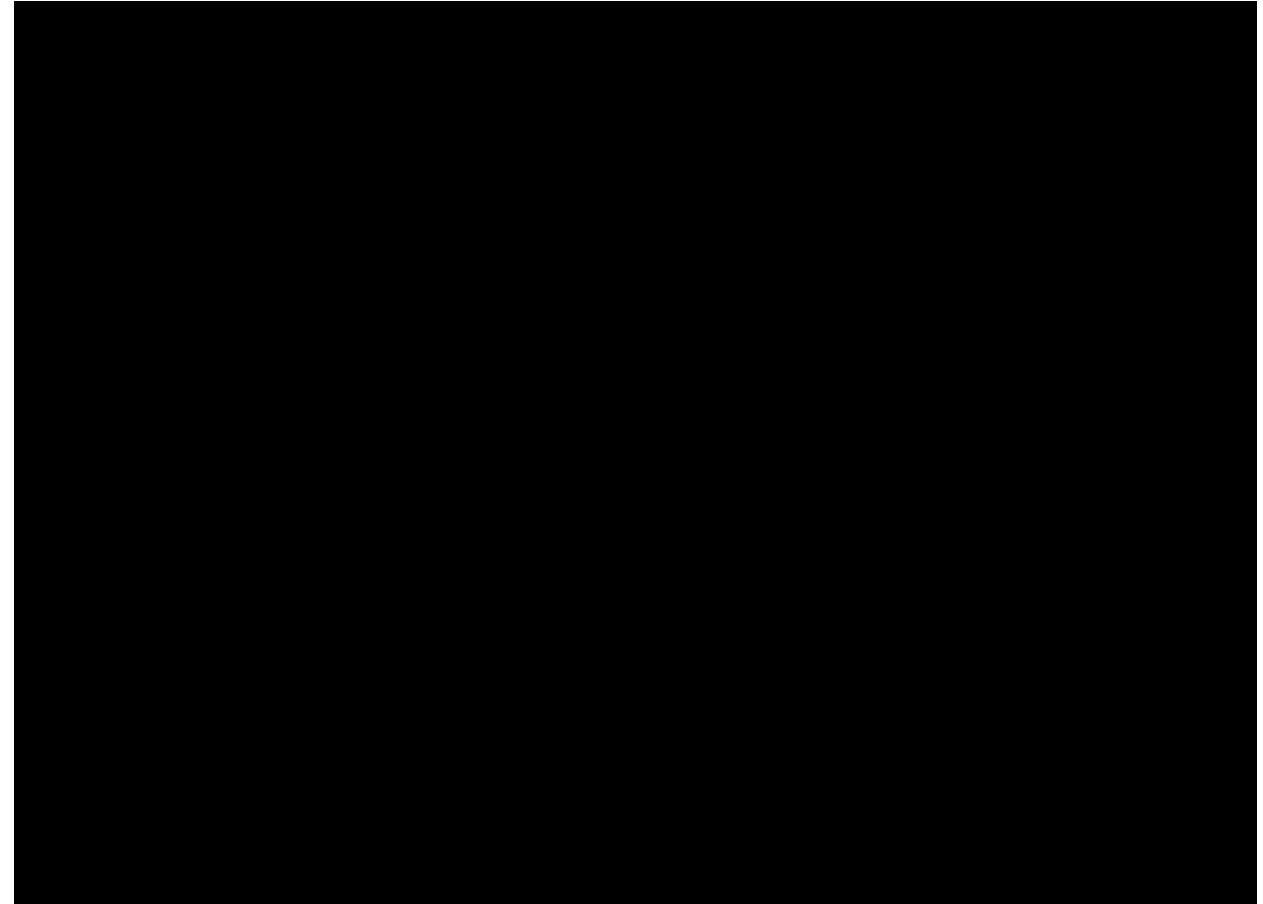
BRINGING THE FLOOR PENETRATION UP TO
CODE IS REQUIRED TO REPLACE THE FLEX DUCT.



Existing Conditions

SHAFT ACCESS

LIMITED ACCESS TO EXISTING SHAFT. SMALL PANEL IN SHAFT ACCESSED THROUGH JANITORS CLOSET OR RESTROOMS.



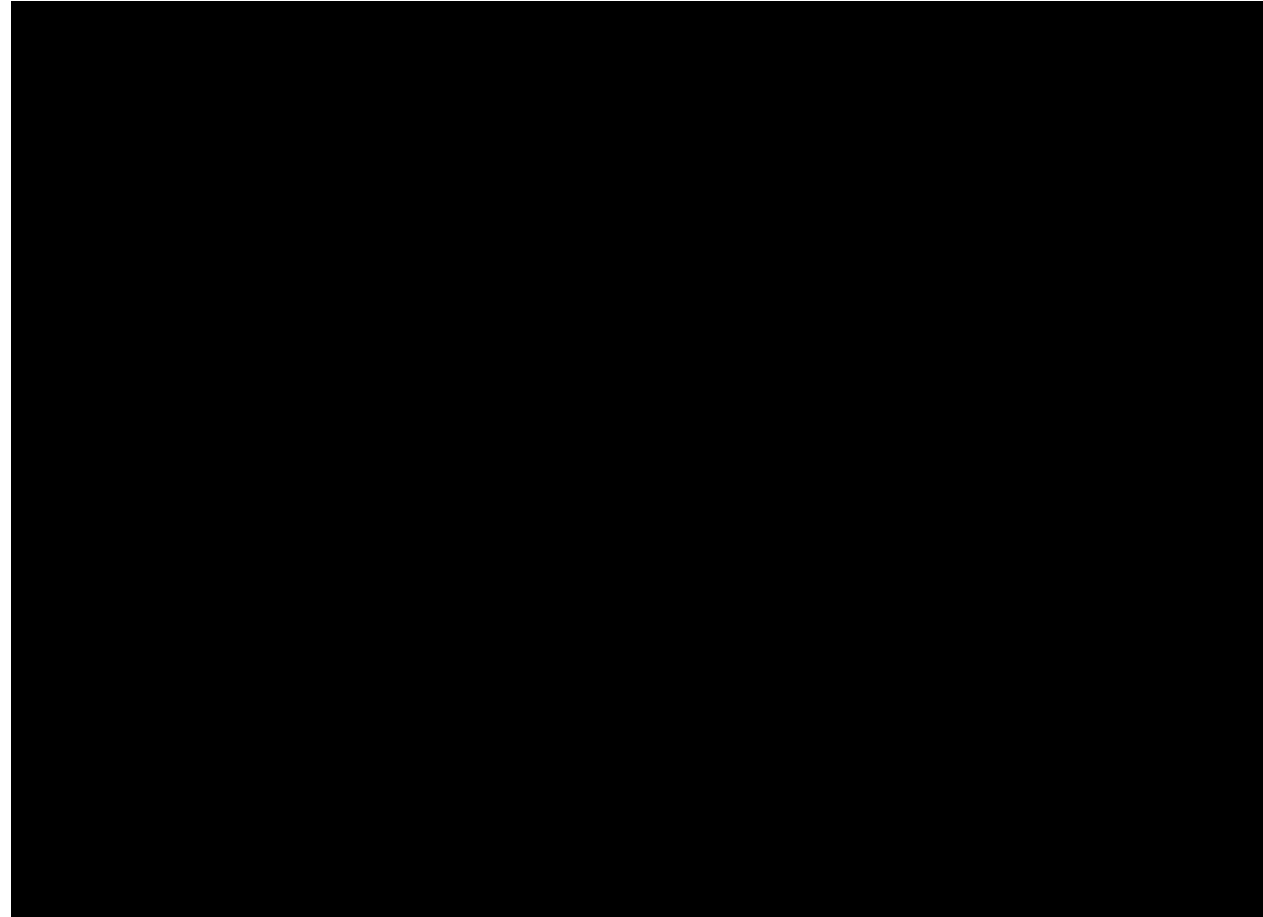
Existing Conditions

TWO HOUR SHAFT: CODE VIOLATION.

SUPPLY DUCT PENETRATIONS THROUGH SHAFT WALLS ARE NOT PROTECTED. FIRE/SMOKE DAMPER IS REQUIRED BY CODE

RETURN DUCT PENETRATIONS THROUGH SHAFT WALL ARE PROTECTED BY FIRE DAMPER. FIRE/SMOKE DAMPER IS REQUIRED BY CODE.

BRINGING THE ENTIRE SHAFT UP TO CODE MAY BE REQUIRED IF WE TOUCH THE PENETRATION



Existing Conditions

FLOOR SLAB PENETRATIONS: PENETRATIONS THROUGH FLOOR SLAB WERE PLANNED AND DETAILED.

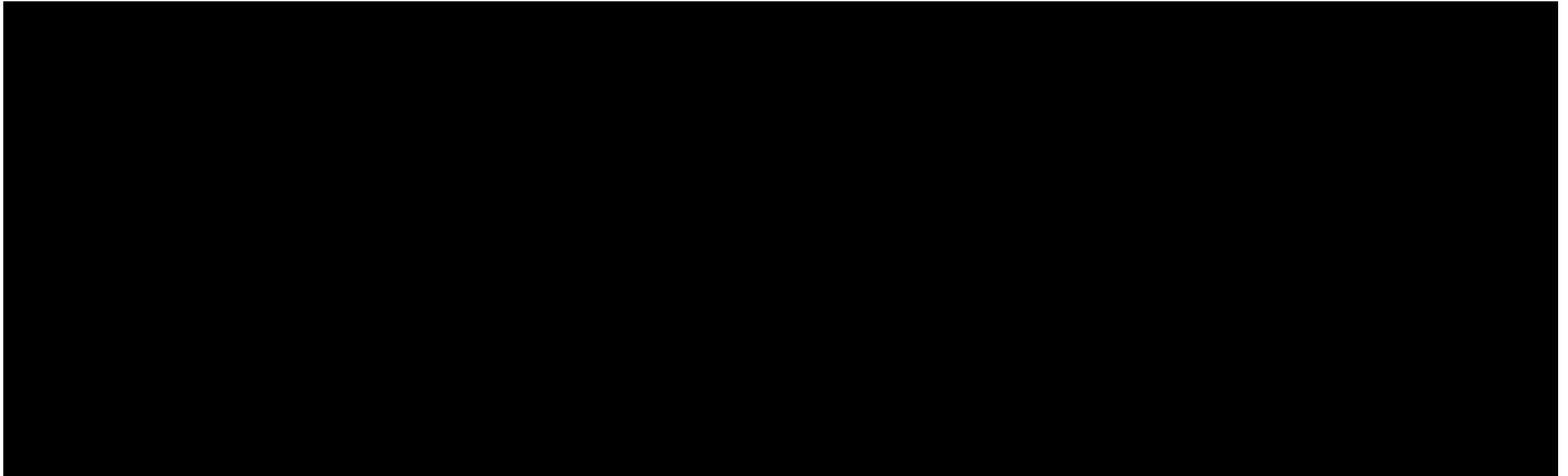
NEW PENETRATIONS ARE NOT FEASIBLE DUE TO STRUCTURAL SLAB



Existing Conditions

FIRST FLOOR: OVERHEAD HVAC

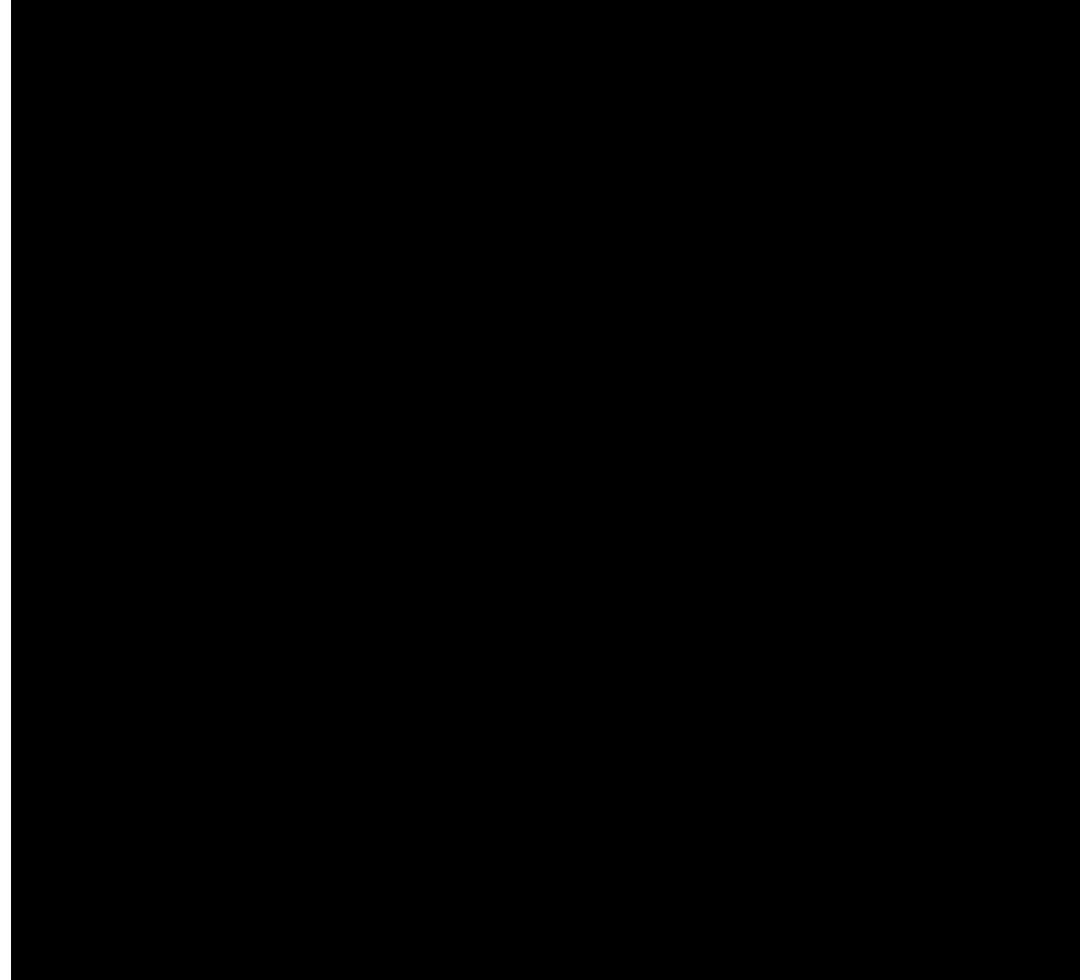
REPLACEMENT IS STRAIGHT FORWARD, AND RELATIVELY SIMPLE



Existing Conditions

SECOND FLOOR: UNDERFLOOR HVAC

REPLACEMENT IS STRAIGHT FORWARD, AND
RELATIVELY SIMPLE. SEE FIRST FLOOR.



Existing Conditions

THIRD-SEVENTH: OFFSET HVAC

REPLACEMENT IS DIFFICULT DUE TO
CONFIGURATION, EXISTING CODE VIOLATIONS
AND ACCESS TO THE DUCT.



POE HALL DUCT REPLACEMENT

Existing Conditions



POE HALL DUCT REPLACEMENT

REFERENCE NORTH ELEVATION



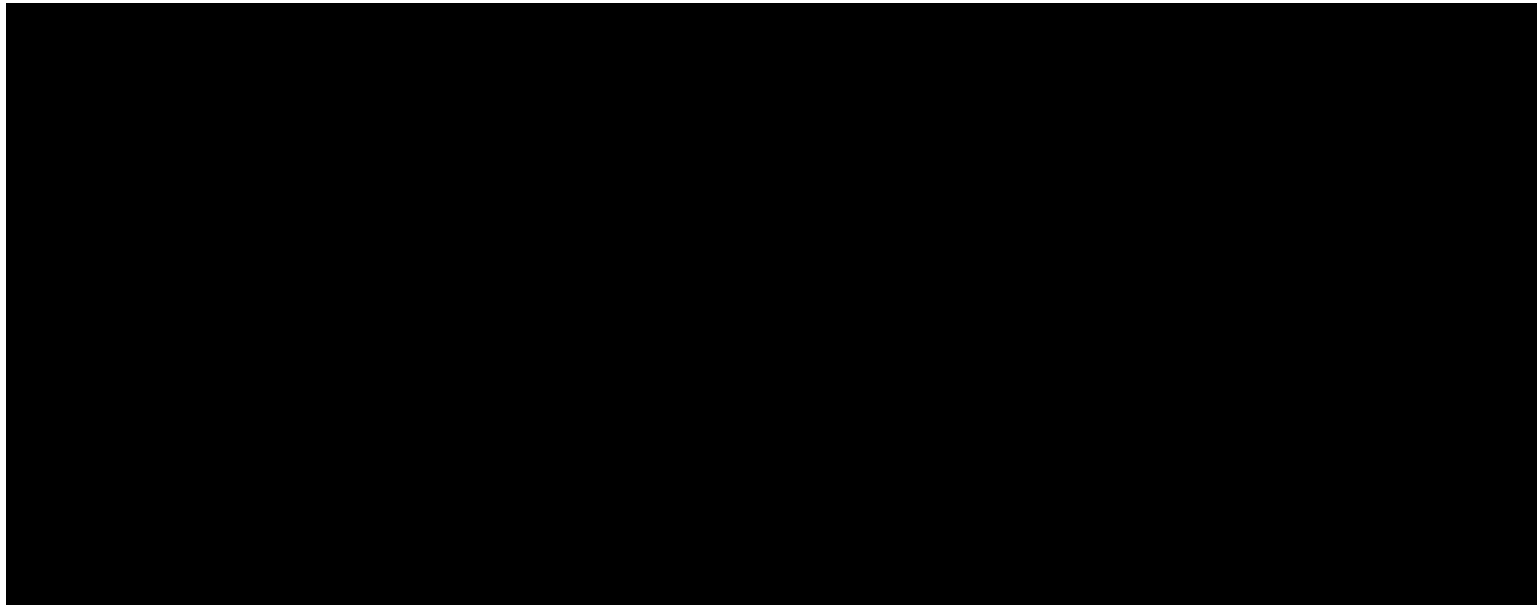
OPTIONS

REPLACE IN PLACE:

DON'T TOUCH FLOOR PENETRATION, FLEX NEEDS TO STAY. CODE VIOLATION

DON'T TOUCH THE SHAFT, LESS REPLACED DUCT. CODE VIOLATION/ACCESS.

ADD FILTER AT FLOOR ENTRANCE TO PROTECT FROM INSULATION ENTERING THE FLOOR



OPTIONS

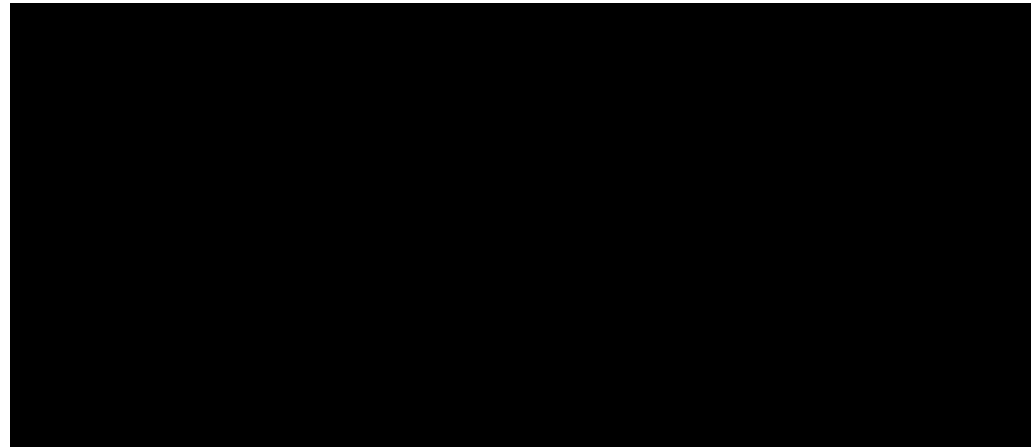
REINSULATE:

REMOVE EXISTING INTERIOR LINING. INSULATE DUCTWORK WITH FLEXIBLE DUCT WRAP ON THE OUTSIDE OF THE DUCT.

DON'T TOUCH FLOOR PENETRATION, FLEX NEEDS TO STAY. CODE VIOLATION

DON'T TOUCH THE SHAFT, LESS REPLACED DUCT. CODE VIOLATION/ACCESS.

ADD FILTER AT FLOOR ENTRANCE TO PROTECT FROM INSULATION ENTERING THE FLOOR



OPTIONS

REPLACE IN PLACE, MODIFIED:

SUPPLY AND RETURN TO BE ON THE FLOOR THE SERVE

REMOVE ALL DUCT IN EXTERIOR CHASE

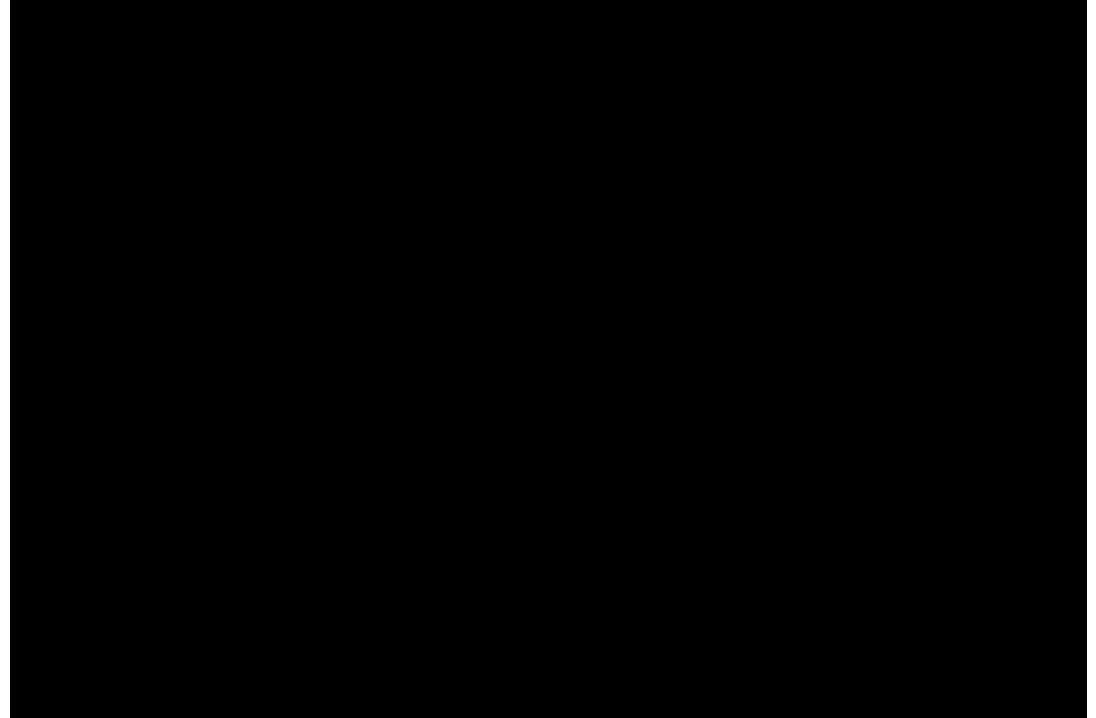
NEW HOT/COLD DUCT ROUTED INSIDE THE SPACE OR HOT MAY BE IN EXISTING EXTERIOR SPACE. REQUIRES NEW BULKHEAD ROUTED ALONG THE WINDOW. WILL NEED TO TOUCH THE SHAFT AND MAY CAUSE ENTIRE SHAFT TO BE BROUGHT UP TO CODE.

NEW TERMINAL UNIT LOCATED IN SPACE. NEW OVERHEAD DUCT SERVING THE SPACE IS REQUIRED.



OPTIONS

REPLACE SHAFT DUCT:
CREATE NEW SHAFT ON OUTSIDE OF BUILDING
AND CONNECT TO EXTERIOR DUCT CHASES
POTENTIALLY CONNECTED TO LARGER
RENOVATION THAT INCLUDES REPLACING AHUS



POE HALL DUCT REPLACEMENT

RECOMMENDATIONS

SMALL IMMEDIATE REPLACEMENT: REPLACE DUCT WHERE IT IS
MOST COST EFFECTIVE SOLUTION
LEAST CHANCE OF TRIGGERING UPDATING EXISTING CODE VIOLATIONS.

RECOMMEND COMPLETE HVAC REPLACEMENT AS FUTURE PROJECT. COULD POTENTIALLY TRIGGER FIRE
ALARM REFRESH (ADDITIONAL FSD)

