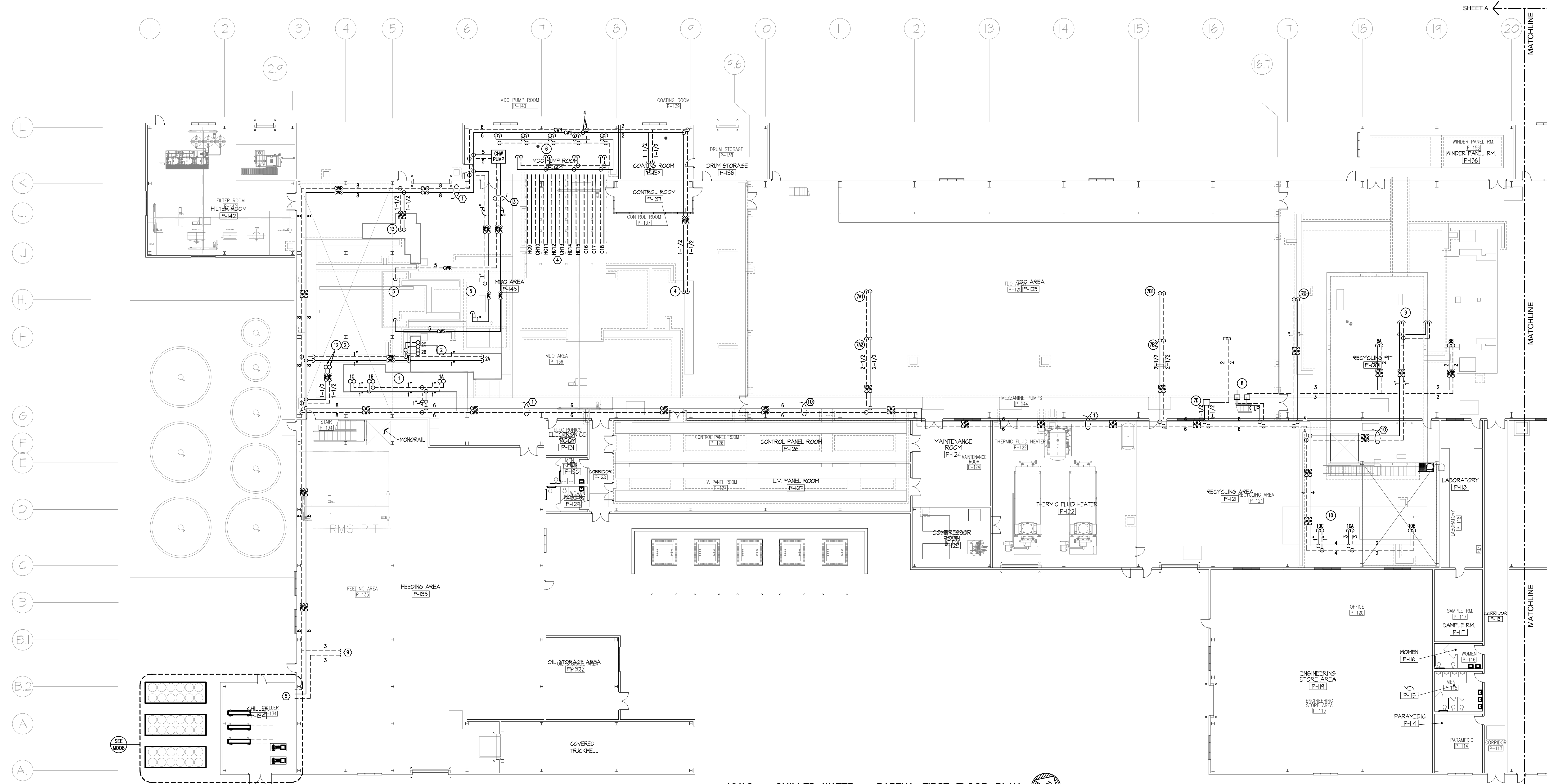


| DATE | REVISION | BY |
|-----------|---|------------------|
| NOV 11 11 | VALUE ENGINEERING RE-DESIGN DOCUMENT | WALE ENGINEERING |
| NOV 11 11 | ADDENDUM #1 | WALE ENGINEERING |
| JAN 20 12 | REVISIONS ASSOCIATED WITH REISED FLOOR PLAN | WALE ENGINEERING |

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| PROJECT NO. | DESIGNED BY | DRAWN BY | CHECKED BY | REVIEWED BY | DATE | SCALE |
|-------------|-------------|----------|------------|-------------|-----------|----------|
| 8529-02 | RCD | TRW | TRW | TRW | JULY 2011 | AS NOTED |



HVAC - CHILLED WATER - PARTIAL FIRST FLOOR PLAN

 SCALE: 1/16" = 1'-0"

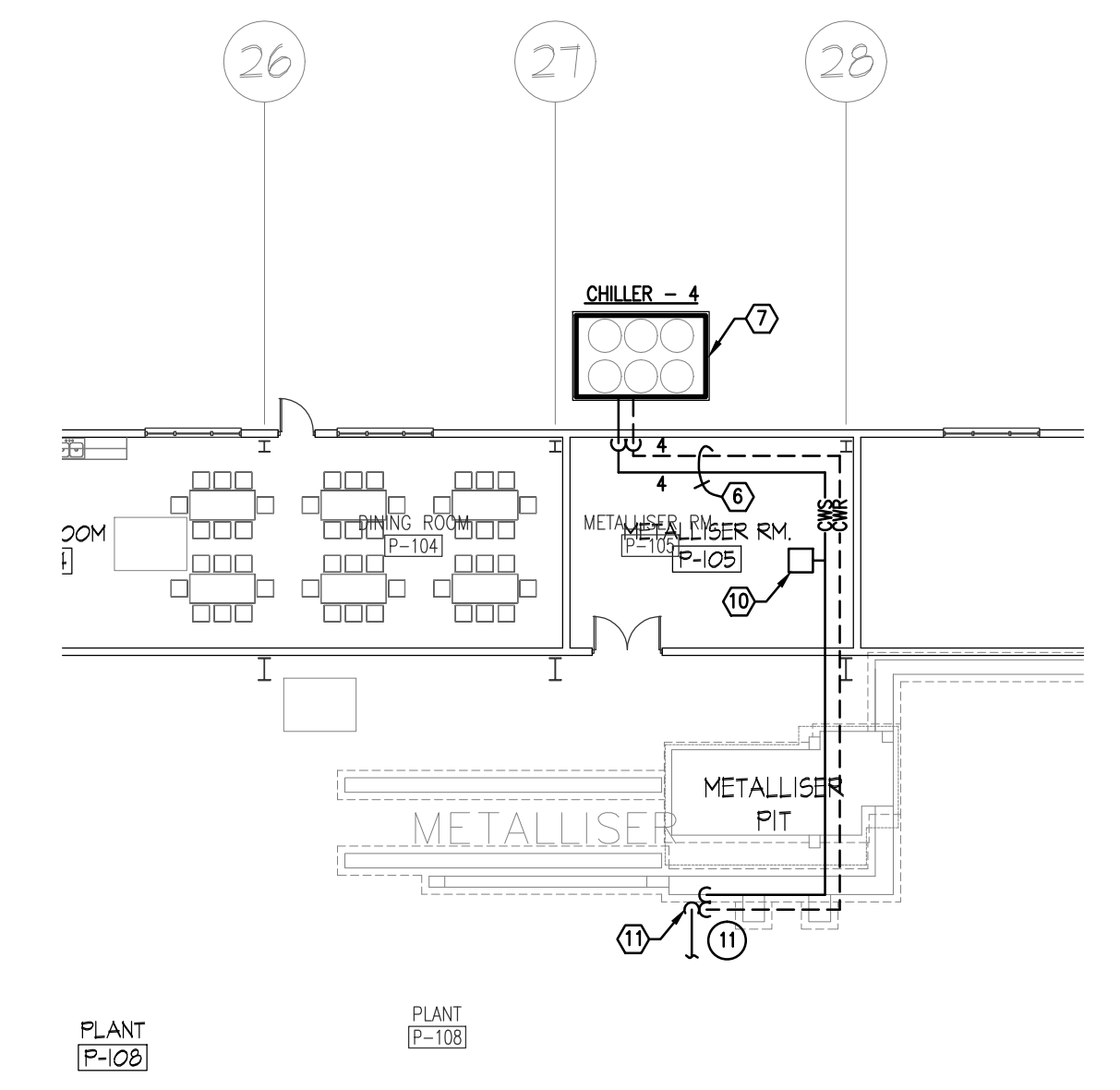
| NO. | AREA | GPM |
|-----|-------------------------|-----|
| 1 | MAIN EXTRUDER | 14 |
| 1A | SCREW COOLING | 4.4 |
| 1B | FEEDING SECTION COOLING | 4.4 |
| 1C | GEARBOX COOLING | 5.2 |
| 2 | SEC. EXTRUDER | 6.1 |
| 2A | SCREW COOLING | 2.2 |
| 2B | SPACER SECTION COOLING | 2.2 |
| 2C | GEARBOX COOLING | 1.7 |
| 3 | CASTING UNIT | 500 |
| 4 | INLINE COATING | 22 |
| 5 | CAST SCANNER | 4.4 |
| 6 | MDO COOLING LOOPS | 572 |
| 7A | TDO TOP-1 | 45 |
| 7B | TDO TOP-2 | 45 |
| 7C | TDO GEARBOX | 4.4 |
| 7D | TDO SECONDARY LOOP | 18 |
| 8 | TUT COOLING LOOPS | 100 |
| 8A | LOOP-01 | 57 |
| 8B | LOOP-02 | 43 |
| 9 | REEL SCANNER | 4.4 |
| 10 | RECYCLING | 176 |
| 10A | GRANULATION BATH | 132 |
| 10B | EXTRUDER GEARBOX | 35 |
| 10C | CONTROL PANEL-01 | 9 |
| 11 | METALLISER | 264 |
| 12 | DRYER TOWER | 40 |
| 13 | VACUUM PUMP | 15 |

GENERAL NOTES:

 THE FOLLOWING NOTES AND ANY OTHER GENERAL NOTES IN THE DRAWINGS ARE GENERAL IN NATURE AND PERTAIN TO THE ENTIRE PROJECT. WHERE THERE ARE EXCEPTIONS, ADDITIONS OR REVISIONS TO THESE NOTES, SUCH EXCEPTIONS, ADDITIONS OR REVISIONS ARE NOTED ON THE PARTICULAR DRAWING WHERE THEY OCCUR.

- FOR CLARITY, THE PIPING SHOWN ON THE PLANS ARE DIAGNOSTIC, AND MAY NOT SHOW ALL SIZES, OFFSETS, ROUTING, AND FITTINGS NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT AS INTENDED.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES IN THE INSTALLATION OF MECHANICAL EQUIPMENT AND ALL ASSOCIATED ACCESSORIES, PRIOR TO INSTALLING EQUIPMENT.
- PROVIDE MECHANICAL SLEEVES FOR ALL PENETRATIONS BELOW GRADE.
- CONCEAL ALL PIPING WHENEVER POSSIBLE UNLESS OTHERWISE NOTED.
- ALL PENETRATIONS IN MECHANICAL ROOMS, CORRIDORS AND STAIRWELLS NEED TO BE FIRE STOPPED AND ANY EXISTING HOLES IN WALLS, FLOORS AND CEILING OR HOLES CREATED BY REMOVAL OF EQUIPMENT, DUCT OR PIPING MUST BE PATCHED TO MATCH EXISTING FIRE RATING, FINISH & COLOR.
- THE CONTRACTOR IS TO VERIFY EXISTING CONDITIONS PRIOR TO BID AND START OF ANY WORK.
- ALL MECHANICAL INSTALLATION SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES.
- ALL RECTANGULAR DUCTWORK (WITH EXCEPTION OF EXHAUST DUCT) SHALL BE LINED WITH 1" DUCT LINER. ALL ROUND OR OVAL DUCTS (WITH EXCEPTION OF EXHAUST DUCT) ARE TO BE WRAPPED WITH 1-1/2" WOOL.
- HVAC SYSTEM IS TO BE BALANCED TO CFM NOTED ON PLANS.
- ALL ROOF TOP EQUIPMENT TO BE LOCATED A MINIMUM OF 10' FROM EDGE OF ROOF.
- INSULATED FLEXIBLE DUCT MAY BE USED TO MAKE CONNECTIONS TO DIFFUSER COLLAR EXTENSION. MAXIMUM LENGTH OF FLEX DUCT IS 5'-0".

- SHEET NOTES:**
- INSTALL MAIN CHILL WATER HEADER PIPING 15' ABOVE FINISHED FLOOR OR AS SITE ALLOWS.
 - CHILL WATER UP TO TOWER AT 32'-8" A.F.F.
 - SECONDARY CIRCUIT.
 - SECONDARY PIPING: SEE CHILLED WATER PIPING SCHEMATIC SHEET UFL-L12-M-005 FOR PIPING SIZES.
 - SEE CHILL WATER PIPING SCHEMATIC FOR PIPING CONNECTIONS FOR PUMPS AND CHILLERS (SHEET UFL-L12-M-005).
 - ROUTE PIPING OVERHEAD TO METALLISER.
 - PROVIDE PACKAGED CHILLER (WITH BUILT IN PUMPING PACKAGE) ON CONCRETE PAD. SEE CHILLER INSTALLATION DETAIL ON SHEET UFL-L12-M-007 FOR ADDITIONAL REQUIREMENTS.
 - PROVIDE PIPING TO COATING PREPARATION TANK.
 - ROUTE PIPING TO CO. DIT. & CO. EXT. GEARBOX. SEE EQUIPMENT LAYOUT PLANS FOR LOCATION OF EQUIPMENT AND CHILL CONNECTIONS. SUPPLY AND RETURN RUN-OUTS ARE BOTH CONNECTED TO THE CHILLED WATER RETURN MAIN. REFER TO SHEET MOOS FOR LOCATION OF BRANCH TAKE-OFF FROM MAINS.
 - PROVIDE 5 GALLON EXPANSION TANK, 3/4" MAKEUP WATER CONNECTION, AND REDUCED PRESSURE BACKFLOW PREVENTOR FOR METALLISER LOOP.
 - PROVIDE 3/4" COMPRESSED AIR CONNECTION TO METALLISER.



HVAC - CHILLED WATER - PARTIAL FIRST FLOOR PLAN

 SCALE: 1/16" = 1'-0"

NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING CHILLED WATER PIPING TO THE EQUIPMENT FLANGE AND TO LOCATIONS WHERE A SECONDARY COOLING LOOP IS USED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING THE CHILL WATER PIPING TO THE SECONDARY COOLING LOOP AND FOR PIPING FROM THE SECONDARY LOOP TO THE EQUIPMENT FLANGE. CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND DRAWINGS (SEE CONNECTION DETAILS ON SHEET UFL-L12-M-007).

