### **PART 1 - TAB AGENCY**

### General:

- 1. The basic testing and balancing shall be provided by Division 23 and in accordance with this Section.
- 2. The independent TAB Agency employed and paid by Division 23 will be providing the final testing and balancing.
- 3. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

# 2. Quality assurance:

1. TAB to be performed to standards of ASHRAE.

### Co-ordination:

- 1. Co-ordinate all work specified in this Section.
- 2. Provide all facilities required by TAB Agency in order to carry out work of this Section.

### 4. Adequacy of work for TAB:

- TAB Agency to review contract documents before work is started and confirm in writing to Consultant adequacy of provisions for TAB and all other aspects of installation pertinent to TAB.
- 2. Division 23 shall provide equipment commissioning and preliminary balancing and confirm the proper operation of all systems.

## 5. List of TAB Agencies:

- 1. ABG Air Balance Group (416) 283-0637
- 2. Aerodynamics Inspecting Consultants Ltd. (905) 625-4388
- 3. Design Test Balance (905) 886-6513

## **PART 2- GENERAL**

- 1. TAB: means to test, adjust and balance all systems to perform in accordance with Contract Documents.
- 2. Follow start-up procedures as recommended by manufacturer unless otherwise specified.

- 3. Special start-up procedures may be specified elsewhere.
- 4. Notify Consultant 7 days prior to start of TAB.
- 5. Operate all systems to permit TAB to be performed.
- 6. TAB to apply to systems, equipment and related controls specified in Division 23.
- 7. Reference organization standards:
  - 1. Do TAB over entire operating range in accordance with most stringent conditions of this specification and standard of following organization.
- 8. Alternate season testing to be provided by TAB Contractor where applicable.
- 9. TAB Contractor to inspect site during construction in order to assure that all balancing devices are installed properly and in pre-selected locations.
- 10. Mechanical contractor to provide the TAB contractor with all related approved shop drawings and change notices.
- 11. Start TAB only when building is essentially completed, including:
  - 1. Installation of ceilings, doors, windows and other construction affecting TAB.
  - 2. Application of sealing, caulking and weatherstripping.
  - 3. All pressure, leakage and other tests specified elsewhere in Div. 23 completed.
  - 4. All provisions for TAB are installed and operational.
- 12. Start-up, verification for proper, safe and normal operation of mechanical and associated electrical and control systems affecting TAB including, but not limited to, the following:
  - 1. Proper thermal overload protection in place for electrical equipment.
  - 2. Air Systems:
    - 1. Filters in place and in clean condition.
    - 2. Duct systems clean of debris.
    - 3. Air shafts, ceiling plenums are airtight to within specified tolerances.
    - 4. Correct fan rotation.
    - 5. Fire and volume dampers in place and open.
    - Coil fins cleaned and combed.
    - 7. Access doors closed and duct end caps in place.

- 8. All outlets installed and connected.
- 13. Accuracy tolerances:
  - 1. Do TAB to following tolerances of design values:
    - 1. HVAC systems: Plus 5%; minus 5%.
    - 2. As original tolerances.
    - 3. Measurements to be accurate to within plus or minus 2% of actual values.
  - 2. Instrument calibration: to be in accordance with TAB referenced organization standard, but within 3 months of commencement of TAB.
- 14. Submittals prior to commencement of TAB:
  - 1. Proposed methodology and procedures for performing TAB.
  - 2. Proposed check lists and report forms.
  - 3. List of instrumentation, including details and certificates of calibration.
- 15. Report:
  - Format to be in accordance with TAB referenced organization standard, but using SI units.
  - 2. Report to include as built full system schematics showing results of TAB.
  - 3. Submit, prior to formal submission of TAB reports, for checking and approval by Consultant, sample of rough TAB sheets. Include:
    - 1. Details of instruments used.
    - 2. Details of TAB procedures employed.
    - 3. Calculations procedures.
    - Summaries.
  - 4. Submit 3 copies of TAB reports, each in "D" ring binders, complete with index tabs for verification and approval of Consultant.
- 16. Verification:
  - 1. Reported measurements shall be subject to verification by Consultant. Provide instrumentation and manpower to verify results of up to 30% of all reported measurements. Number and location of verified measurements to be at discretion of Consultant.

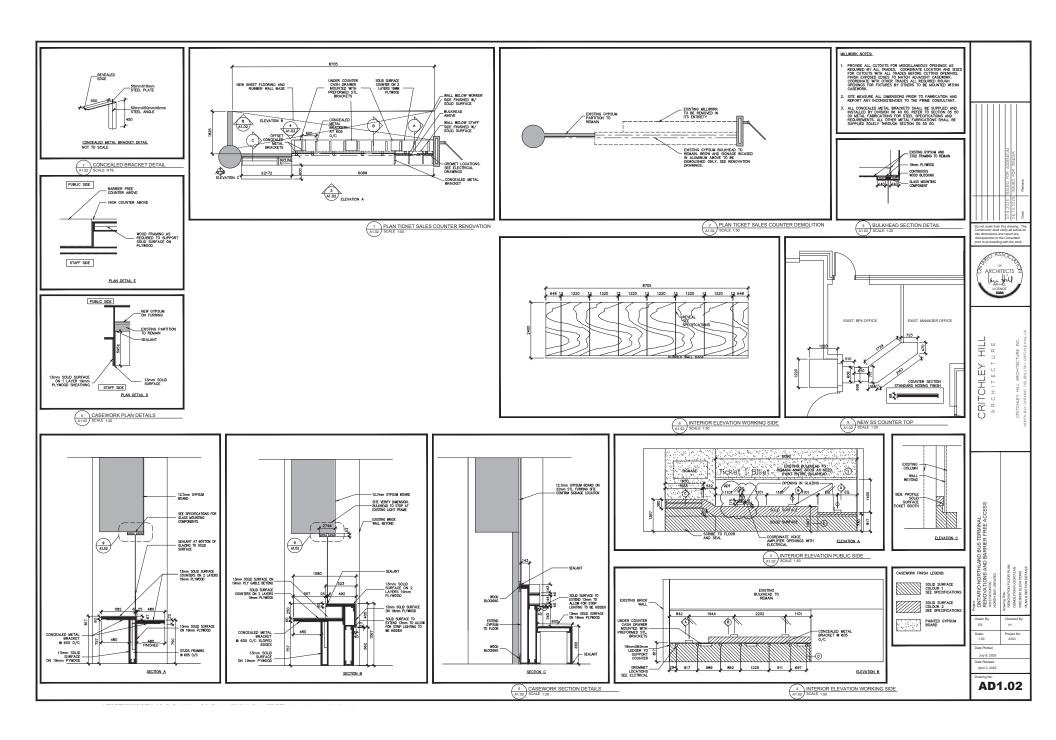
- 2. Bear costs to repeat TAB, as required, to satisfaction of Consultant.
  - Settings: lock and permanently mark settings as required by reference standard.
  - 2. Completion: TAB to be considered complete only when final reports are approved by Consultant.

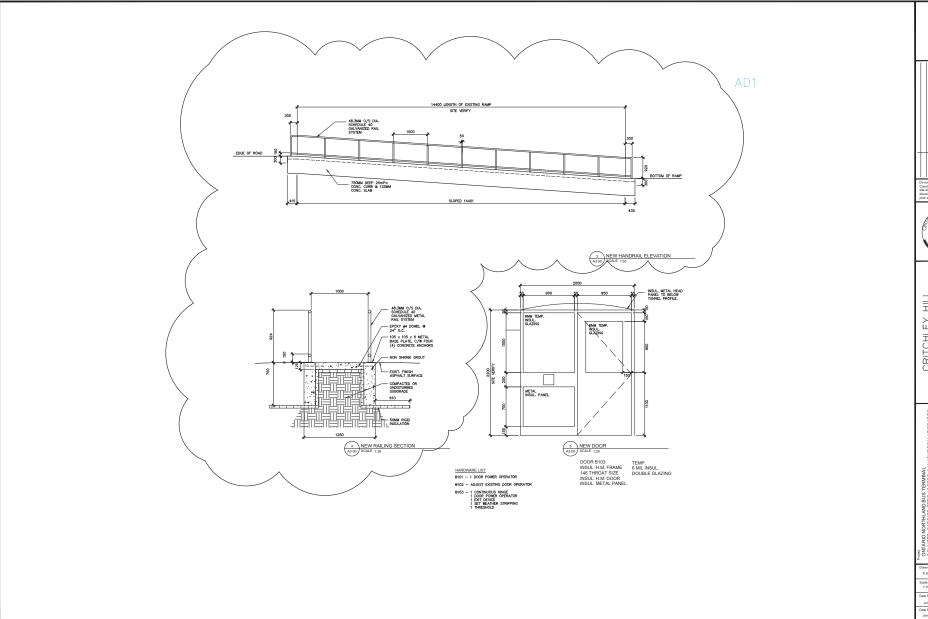
## **PART 3- AIR MOVING SYSTEMS**

- 1. General: measurements as required by referenced organization standards, including, but not limited to, following:
  - 1. Measurements:
    - 1. Air velocity.
    - 2. Static pressure.
    - 3. Velocity pressure.
    - 4. Temperature:
      - 1. Dry bulb.
    - Cross sectional area.
    - 6. RPM.
    - 7. Electrical power:
      - 1. Voltage
      - 2. Current draw.
- 2. Location of equipment measurements:
  - 1. Inlet and outlet of each:
    - 1. Fan.
    - 2. Coil.
    - 3. Filter.
    - 4. Damper.
    - 5. Humidifiers.
    - 6. Terminal Units.
    - 7. Other auxiliary equipment.

- 3. Location of system measurements at:
  - 1. Main ducts.
  - 2. Main branch ducts.
  - 3. Sub-branch ducts.
  - 4. Each supply, exhaust and return air inlet and outlet.
  - 5. Other auxiliary equipment.
  - 6. All areas served by system.
  - 7. Each thermostatically controlled zone.

END OF SECTION 23 05 93





Y/PROJECTS/2023/2353 ONTC North Bay Bus Depot Lighting and Ceiling Replacement/2.5.4 Working Drawings/(2004 CAD) 2353 ONTC Architectural Drawings 4-19-2024 addendum.dwg

CRITCHLEY HILL ARCHITECTURE

OWINGROW ORTH AND BLIS TERMINAL
OWNER DAVIETE RARRIER FREE ACCESS, & WASHROOM LP GRADES
TO STRONG TO STRONG THE CONTROL OF THE

Drawn By: E.S Scale: 1:100

Date Plotted: July 24, 2025 Date Revised: January 3, 2024

AD3.00

