Applied geoscience for our changing Earth
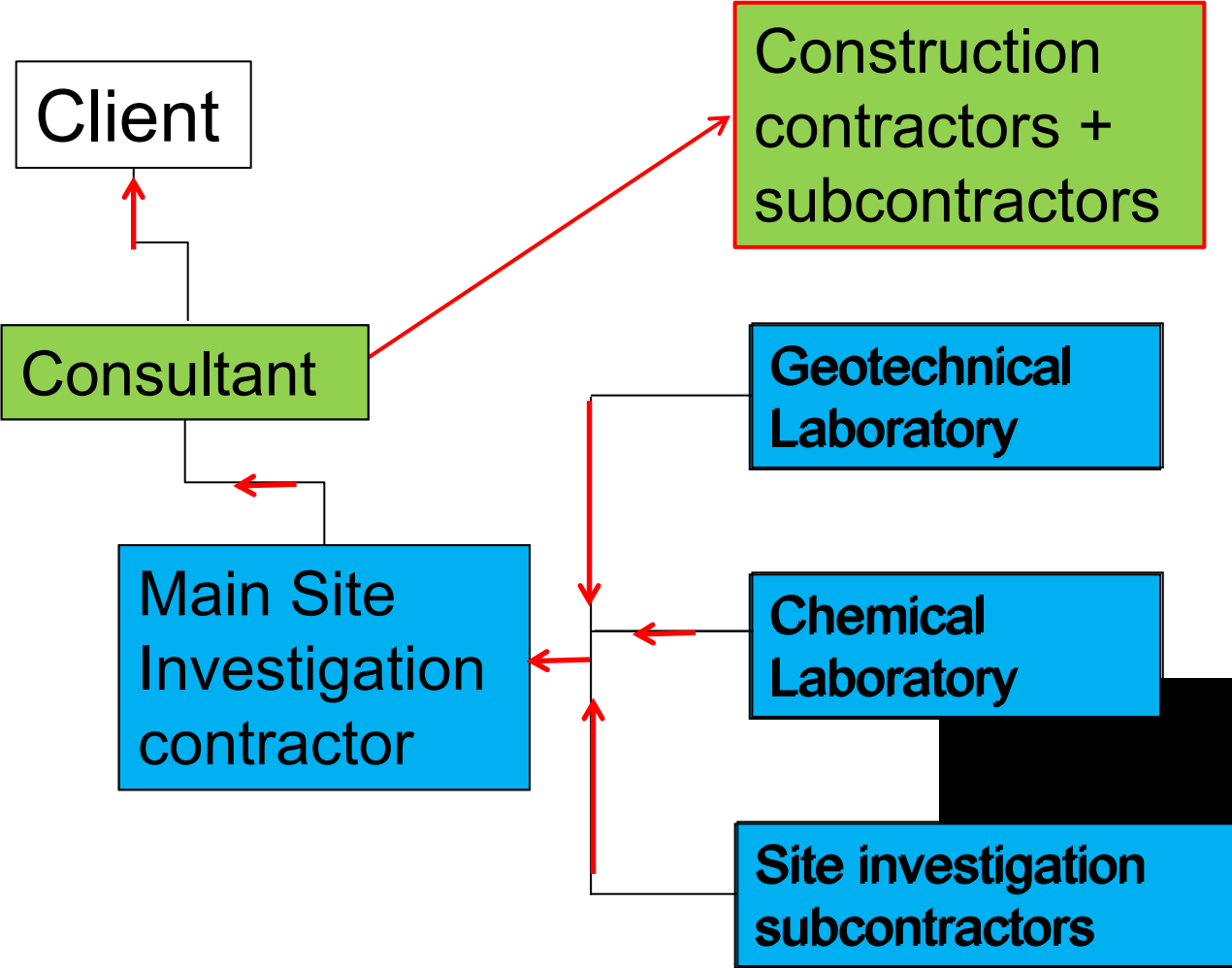
Using AGS digital data transfer format

D C Entwisle and S Self

Synopsis

- UK Business model
- What is the AGS?
- What is AGS digital data transfer format?
- Using AGS data

UK business model

Client

Consultant

Construction contractors + subcontractors

Main Site Investigation contractor

Geotechnical Laboratory

Chemical Laboratory

Site investigation subcontractors

What is the AGS?
http://www.ags.org.uk/site/home/index.cfm

- Association of Geotechnical and Geoenvironmental Specialists
- Trade association – non profit making
- Improve profile and quality of geotechnical and geoenvironmental engineering
- Membership – UK organisations and individuals
  - Site investigation, ground engineering, geoenvironmental engineering

What is the AGS? committees

- Contaminated Land
- Loss prevention
- Business Practice
- Safety
- Data Management **- sub committee - developing BS 8574 Management of geotechnical data code of practice**
- Laboratories

AGS digital data transfer format - History

1980's - Proliferation of software systems and data formats for site investigations.

Need for standardise data transfer and storage of site investigation data

- AGS working Party set up in 1991- version 1 1992
- 2nd edition 1994
- 3rd edition 1999 updated 3.1 2005
- 4th edition 2010

AGS digital transfer format
Under lying philosophy

- Transfer geotechnical and geoenvironmental data between parties
- Standard software tool to produce a data file
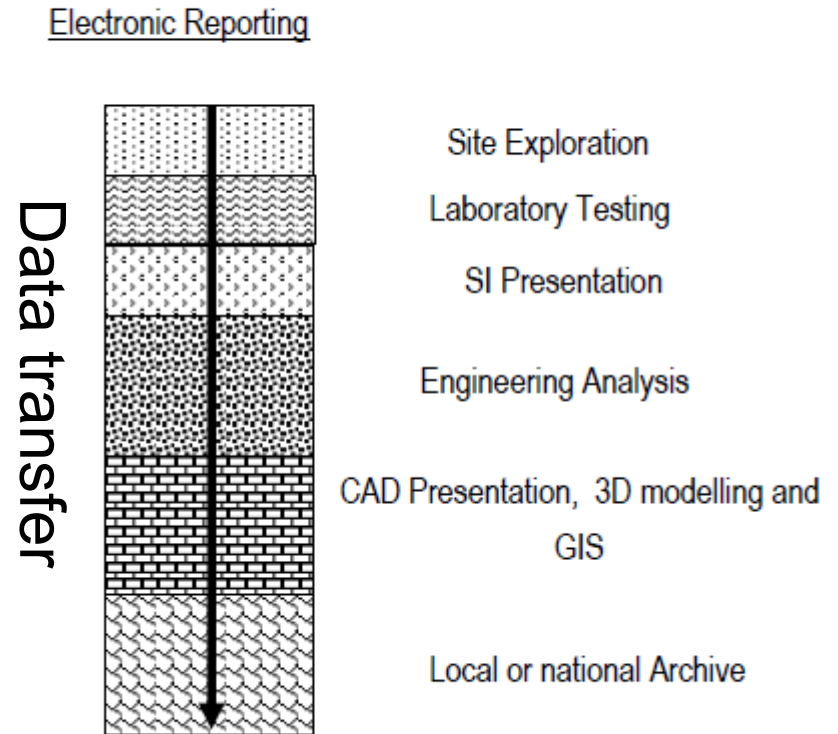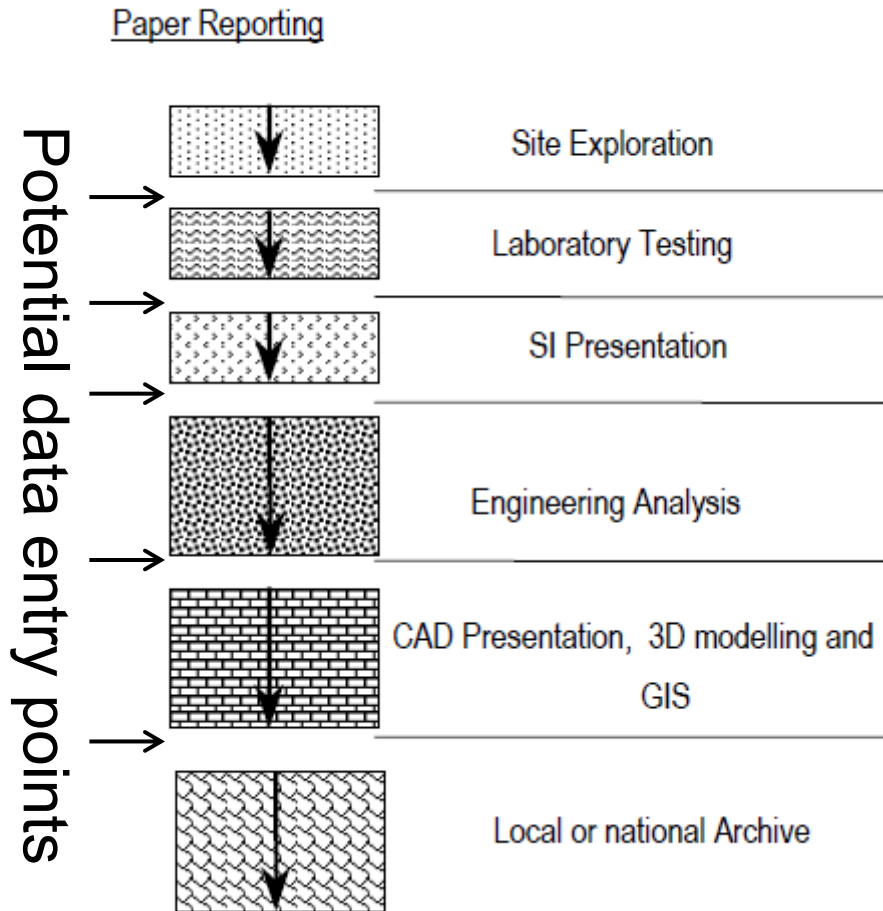- Widest level of acceptance - ASCII files

2 Golden Rules

Rule 1 – Only enter data once

Rule 2 – Get someone else to do it

Data Journey

Paper Reporting

Potential data entry points

Site Exploration

Laboratory Testing

SI Presentation

Engineering Analysis

CAD Presentation, 3D modelling and GIS

Local or national Archive

Electronic Reporting

Data transfer

Site Exploration

Laboratory Testing

SI Presentation

Engineering Analysis

CAD Presentation, 3D modelling and GIS

Local or national Archive

AGS digital data transfer format
http://www.ags.org.uk/site/datatransfer/intro.cfm

Includes

- Rules that shall be used

- Group (table) relations

- Data dictionary – data sets, types, units

- Group (table) names, contents and notes for guidance

- Security of media, media labelling and index recording

- General notes for guidance

- Web based user support, discussi list codes

- Flexible easy to add new Groups requirements 'International'

AGS digital data transfer format Group Relationships
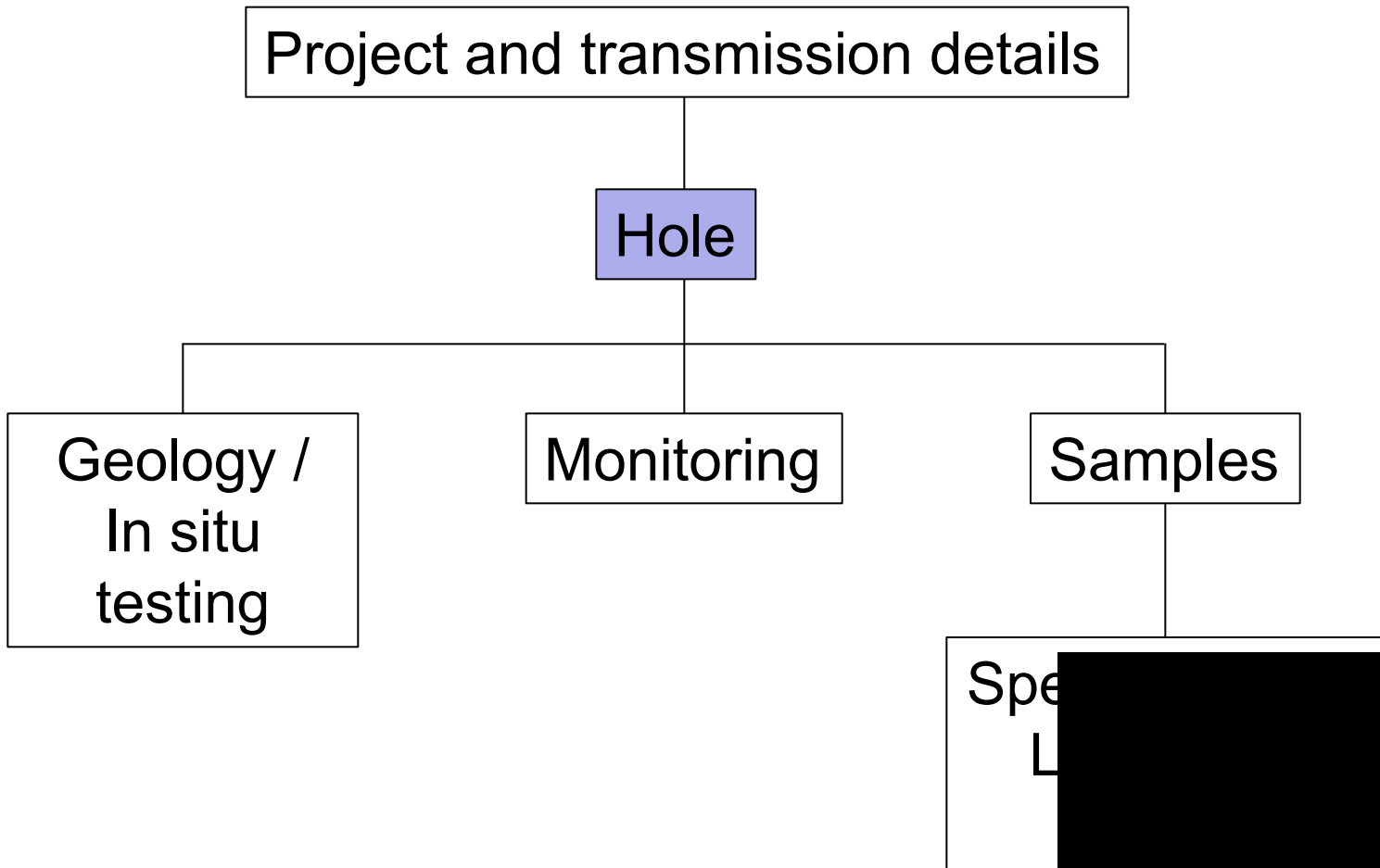
AGS digital data transfer format
Project and data transmission details

- Project details
- Abbreviation definitions – (pick list from website)
- Data file transmission and data status
- Associated files (as required)
- Definition of data types
- Definition of units

AGS digital data transfer format
In situ data - examples

- Borehole and pit formation and completion

- Monitoring (various types)

- Sample information

- Description and classification

- Dynamic, static cone and standard penetration test

- Water strikes, permeability, soak away tests

- RQD etc, Fracture spacing

- Plate, Pressure meter tests

AGS digital data transfer format Laboratory - examples

- Aggregates tests (11)
- Compaction, CBR, MCV
- Consolidation
- Chemical tests (Engineering and contamination) (2)
- Frost susceptibility
- Density, water content, particle density
- Strength (undrained, drained, rock)
- Geophysics
- Permeability

AGS digital data transfer format

- Commas and quotes

"**PROJ"

"*PROJ_ID","*PROJ_NAME","*PROJ_CLNT","*PROJ_CONT","*PROJ_ENG","*PROJ_MEMO","*PROJ_DATE","*PROJ_AGS","*?PROJ_ISNO","*?PROJ_PROD","*?PROJ_RECV"

"<UNITS>","","","","","","dd/mm/yyyy","","","",""

"F15828","Package 33 - Old Oak Common Depot","Crossrail Ltd","Soil Engineering","Capita Symonds Ltd","m ATD","27/10/2010","3.1","2","Soil Engineering","Capita Symonds Ltd"

Support software -
http://www.ags.org.uk/site/datatransfer/software.cfm

- Geotechnical data management
- Geotechnical laboratory
- Field data collection
- In situ testing and instrumentation
- Borehole log production
- Geoenvironmental data systems
- Mapping and GIS
- Data validation

AGS compatible Software

Electronic Transfer of Geotechnical and Geoenvironmental Data

AGS4

October 2011

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AGS — Association of Geotechnical & Geoenvironmental Specialists

How easy is it to use? Data quality

- Depends on the quality of the files received.
- Technically, all files should:
  - **Follow AGS rules**
  - **Validated before 'publishing' (Software available)**
- Many problems with older files – Format not properly understood, incomplete validation
- Generally better now although files are not always fully validated.

How easy is it to use?
Specific problems adding to Database

- 1st step Loading into schema (SQL script and Java program)
  - Text in numerical fields
  - Duplicate records in tables
  - Missing key fields

- 2nd step AGS schema to database
  - Dictionaries come with AGS data but not standardized
    Code fields need to be converted to
    before loading

What are the barriers?

- Depends on the quality/validation of the data

  - Cannot be used if
    Completely corrupted files
    Missing mandatory data, e.g. grid references

  - Most files can be used but some may take time to sort out.

Use of local not National Grid and datum

What are the benefits?

- Time saving
    - Large SI reports (several volumes many boreholes).
      All AGS data added 1 to 2 hours
      From Paper records – a week or more
- Completeness
        No data need be excluded due to time constraints
- No transcription errors as from paper recorded
- AGS format used by better consultant
  knowledgeable clients (Highways Age
  Cross-rail, CTRL)

AGS digital data transfer

http://www.ags.org.uk/site/datatransfer/intro.cfm

Thank you