### Entitlement for Differing Site Conditions







### DSC Clause Context (Philosophy)

### **Contractor:**

Lowest bid <u>without contingencies</u>

### **Owner:**

<u>Compensate</u> contractor for unanticipated conditions





### **DSC Clause Content**

(Mechanism)

#### The Federal DSC Clause states:

- (a) The Contractor shall promptly, and **before the conditions are disturbed**, give a <u>written</u> <u>notice</u> to the Contracting Officer of
  - (1) subsurface or latent physical <u>conditions at the site which differ materially from those</u> <u>indicated</u> in this contract, or
  - (2) un-known physical <u>conditions at the site, of an unusual nature</u>, which <u>differ materially</u> <u>from those ordinarily encountered</u> and generally recognized as inhering in work of the character provided for in the contract.
- (b) The Contracting Officer shall <u>investigate</u> the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an in-crease or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a re-sult of the conditions, an equitable <u>adjustment shall</u> <u>be made under this clause</u> and the contract modified in writing accordingly.
- (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the <u>written notice</u> required; provided, that the time prescribed in (a) above for giving written notice may be ex-tended by the Contracting Officer.
- (d) <u>No request</u> by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract







# Type 1 or Type 2 ? DSC

A crew putting in lines for an addition to the local airport found the following in a culvert they were using...



#### The gator is/was 18' 2" long.



The rattlesnake roundup totaled 87





## **DSC Clause - History**

1926	<ul> <li>first use of the clause in Federal contracts</li> </ul>
60+ yrs	- Difficult & adversary contracting
1960's	- Committee on Better Contracting Practices
1970′s	- Raising of Consciousness & beginnings of reform
1980's	- Disputes Review Boards (DRB)
1990's	- Geotechnical Baseline Reports (GBR)
2000's	- GBRs & DRBs need to be improved & maintained
Future	Translate intention into more effective results





## **Components of a DSCs**

### 1. Entitlement

Consistent with local law

### Founded on technical basis

2.Quantum







## **Elements of Entitlement**

- **1. Difference in conditions**
- **2.** Difference in performance
- 3. Cause and effect relationship between difference in conditions and difference in performance
- 4. Impact on construction performance (time & costs)
- 5. Contract conditions must be fulfilled
  - a. Reliance
  - b. Notice
  - c. Mitigation

No other causes can be responsible for impact



# **Establishing Conditions**

### Anticipated:

- Reliance on contract
- Use "realistic optimism" for interpretation of behavior
- Specific data supersedes general data

**Encountered:** 

Quantitative project records

**Differences:** 

- Quantitative & graphic
- Consistent variables and units
- Properties relevant to construction behavior



## **No Difference in Conditions**



### Recovery=10%; RQD=0



**Unanticipated shear zone ?** 





### No Difference In Conditions Claim for unanticipated gravel









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### **Difference in Conditions**

#### 1. Plow installation of telecommunications & utility conduits



2. Bill of Quantities•Pay item for rock excavation

3. Designer to inspector: "No rock in Arizona" (project) 4. Many other problems:
Contract specified permits delayed
Multiple designer delays
Inaccurate plans

5. Arbitration Judgment:\$2M to contractor•Designer bankrupt







### **Difference In Conditions**

#### Overrun of slurry wall rock socket area









### **Difference In Conditions**

# **Because:**

Why?



#### NOT equivalent to clamshell bucket refusal + 2ft







# **Establishing Performance**

### Anticipated:

- "reasonable" & consistent with project conditions
- Appropriate past experience with similar conditions, means, methods, and equipment

### **Encountered:**

- Quantitative project records (contractor & RE)
   Difference:
- Quantitative & graphic
- Consistent variables and units
- Properties relevant to construction behavior





### **Difference in Performance**





Better performance with boulders

# Self inflicted problems

- 1. Consultant recommended plastic membrane behind lagging,
- 2. Eliminated skin friction between the soil and lagging,
- 3. Machine thrust distributed to lagging "beam" rather than soil mass, and
- 4. Consultant championed claim with conflict of interest:
  - recommended membrane ring spacing (too wide) &
  - his students were performing research on project

So what caused low productivity?







### **Difference in Performance**

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rewer boulders

than anticipated

ance

ooulders





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# **Difference in Performance**







### **No Cause and Effect**

•Means, methods, & equipment appropriate for anticipated conditions

•Differences in conditions must cause the difference in performance







## **Cause and Effect**

•Means, methods, & equipment appropriate for anticipated conditions

•Differences in conditions must cause the difference in performance









### Impact

- Must be clearly demonstrable & associated with:
  - Time
  - Space (location)
- Must have an effect on:
  - Time (duration)
  - Costs
- May be:
  - Delayed from location and time of encounter
  - Difficult to illustrate when sustained from beginning





## **Impact on Excavation Rate**







## Self Inflicted Impact









### **Contract Requirements: Reliance**







# **Contract Requirements: Notice**

- Intended to allow investigation of DSC
- Not always strictly enforced by the courts





## **Contract Requirements: Mitigation**









### **No Other Causes**

There can be no other causes of impact on delay, cost, or other consequences.





### Self Inflicted Pump Inefficiency









## **Self Inflicted Over-Excavation**

**Excavation Without Advance** 450 409 **400** Muck Volume, cubic meters Muck Vol.=1m of tunnel 350 **Muck** Muck Vol.=17m of tunnel volume 300 removed 250 with no tunnel 200 advance 150 100 50 24 0







## **Conclusions / The End**

- DSC can be dealt with in a technical manner
- Essential to define anticipated conditions & behavior
- Good records of construction events are a must

You have been provided with the tools for:

- Investigating,
- Analyzing,
- Presenting, and
- Adjudicating

entitlement for differing site condition claims.

