Module 4

Engineer’s Estimate

EBASE Overview & Reports
Summary of Quantities
Funds, Groups, Columns
Not a hands-on EBASE class!

- Strategies and data needed for successful estimate preparation

- For **hands-on** EBASE **training** contact:
  - Region Plans or Plan Review Office
  - HQ Plans Office
What is EBASE?

Estimates and Bid Analysis System

Estimates Module

Scoping → PS&E

Bids Module

Ad → Award
EBASE Reports

✓ Proposal (to Contract Provisions)

✓ Preliminary Estimate (to Program Mgmt)
  - Summary Report
  - Fund Report
  - By Group Report
  - By Item Report
  - Work Classification Report

✓ Summary of Quantities (to Contract Plans)
Destroy Sensitive Material Not Required for Your Records
EBASE Reports

How the Engineer’s Estimate is Used
Engineer’s Estimate

• **Internal and external planholders** use the **Summary of Quantities** to grasp the nature and magnitude of the work.
Engineer’s Estimate

- **Program Managers** use **Preliminary Estimates** to monitor and balance the overall WSDOT Program
Engineer’s Estimate

- **Contract Ad & Award** uses **Work Classification Reports** to determine which contractors are eligible to bid on specific contracts.
Engineer’s Estimate

• **Accounting** uses the **Preliminary Estimates** to set up construction phase Work Orders (aka Contract #s)
Engineer’s Estimate

• **Pre-qualified Contractors** submit their bids on the **Proposal Form**
Engineer’s Estimate

• **Contract Ad & Award** identifies the low bid by comparing bids received on the **Proposal Forms** against the **Preliminary Estimate**
Engineer’s Estimate

- **Project Offices** compare bids in the Bid Check Report against the **By Item Report** to justify award or rejection of bids over 10% or $50K
Summary of Quantities

PPM 460.04
Plan Example 4-7
Where Contract Bid Items Come From

- Plans
  - Profiles
  - Q-Tabs
  - Structure Notes
  - Misc Qtys

- EBASE
  - Summary of Qtys
  - Proposal

Non-tabulated Qtys
Tables in Plans
Lump Sum Items
Estimated Items
Calculated Items
• Complete tabulation of all **bid items** and **pay quantities** for project

• Generated by EBASE
Bid items are grouped by major categories of work aka Section Headers

<table>
<thead>
<tr>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization</td>
</tr>
<tr>
<td>Removing Guide Post</td>
</tr>
<tr>
<td>Removing Monument Case and Cover</td>
</tr>
<tr>
<td>Grading</td>
</tr>
<tr>
<td>Shoulder Preparation</td>
</tr>
<tr>
<td>Surfacing</td>
</tr>
<tr>
<td>Crushed Surfacing Top Course</td>
</tr>
</tbody>
</table>
**Bid items** shall be listed in the same order as they appear in the **Standard Item Table**

**Non-standard items** (not in the **Standard Item Table**) shall be intermixed (according to type of work) with the bid items that are listed in the Table
What Do I Need for Summary of Quantities?
Project (WIN)

PIN
Program
Funding Part.
Control Section
3rd Party Damage

Work Locations

Bid Items
Non-Bid Items
Fund Sources

Many sources of construction funds:

- **Private*** (developers, utilities, etc.)
- **Local*** (cities and counties)
- **Federal** (tax dollars)
- **State** (tax dollars)

*Requires participation agreement
Funding Participation

Participation may be:

– **Percentage** (eg. 90.66%, 86.5%)

– **Maximum dollar amount** expressed as 100% expenditure (eg. 100% of $4.2 M)

4 types of participants
How multi-participant funds are disbursed

Sequence fund expenditure in this order:

1. **Private $$** - spend first
   (often a maximum amount)

2. **Local $$** - spend next
   (sometimes a maximum amount)

3. **Federal $$** - next
   (generally a percentage)

4. **State $$** - last
   (always 100%)
How multi-participant funds are disbursed

**Example:** Project includes federal interstate maintenance funds, state funds, $4.2 M for developer mitigation, and City participation of $1 M.

Set Fund up in this spending order:

1. **Developer @ $4.2 M maximum**
2. **City @ $1.0 M maximum**
3. **Federal IM @ 90.66%**
4. **State @ 100% (of remainder)**
PIN Program
Funding Part.
Control Section
3rd Party Damage

- **GROUPS**
  - **GROUP 1**: STA 351+27 TO STA 367+87
  - **GROUP 1**: STA 392+09 TO STA 463+48
  - **GROUP 2**: STA 507+60 TO STA 526+36
  - **GROUP 3**: PSE SNO CO
  - **GROUP 4**: ALDER-WOOD WATER SNO CO
  - **GROUP 5**: VERIZON EVERETT
  - **GROUP 6**: THIRD PARTY DAMAGE

**ITEMS**

Non-Bid Items
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Group Rules

A **Group** is required for each:

1. Program Item Number (PIN)
2. Program-Subprogram (P1, P2, I1, I2, etc.)
3. Fund-Source-Participation Rate Change
4. 6-digit Control Section
5. Third Party Damage (1 per contract)
## Project (WIN)

<table>
<thead>
<tr>
<th>GROUP 1</th>
<th>GROUP 2</th>
<th>GROUP 3</th>
<th>GROUP 4</th>
<th>GROUP 5</th>
<th>GROUP 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 351+27</td>
<td>STA 507+60</td>
<td>PSE</td>
<td>ALDERWOOD</td>
<td>VERIZON</td>
<td>THIRD PARTY</td>
</tr>
<tr>
<td>TO STA 367+67</td>
<td>TO STA 526+36</td>
<td>SNO CO</td>
<td>WATER SNO CO</td>
<td>EVERETT</td>
<td>DAMAGE</td>
</tr>
<tr>
<td>SECTION 1</td>
<td>SECTION 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Work Locations

- STA 351+27 to STA 367+67 (SECTION 1)
- STA 392+09 to STA 463+48 (SECTION 2)
- STA 507+60 to STA 526+36 (SECTION 3)

### COLUMNS

- Bid Items
- Non-Bid Items

### ITEMS

- Fund Groups
- Columns
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Column Rules

• Must have a **minimum of 1 column** per group (usu. Roadway work)

• Every column shall be **assigned to a group**

<table>
<thead>
<tr>
<th>GROUP 1</th>
<th>GROUP 1</th>
<th>GROUP 2</th>
<th>GROUP 3</th>
<th>GROUP 4</th>
<th>GROUP 5</th>
<th>GROUP 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 351+27 TO STA 367+87</td>
<td>STA 392+09 TO STA 463+48</td>
<td>STA 507+60 TO STA 526+36</td>
<td>PSE SNO CO</td>
<td>ALDER-WOOD WATER SNO CO</td>
<td>VERIZON EVERETT</td>
<td>THIRD PARTY DAMAGE</td>
</tr>
</tbody>
</table>

Col 1 | Col 2 | Col 3 | Col 4 | Col 5 | Col 6 | Col 7 |
PPM 460.04

Column Rules

A **Column** is required for each:

- ✓ Bridge
- ✓ Wall
- ✓ State furnished Pit

+Unless tabulated separately in the Plans
## SUMMARY OF QUANTITIES

<table>
<thead>
<tr>
<th>Item</th>
<th>Group 1</th>
<th>Group 1</th>
<th>Group 1</th>
<th>Group 1</th>
<th>Group 1</th>
<th>Group 1</th>
<th>Group 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing and grubbing</td>
<td>0.90</td>
<td>4.20</td>
<td>1.00</td>
<td>0.40</td>
<td>1.20</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Removing drainage structure</td>
<td>1.00</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removing asphalt concrete pavement</td>
<td>5,679.00</td>
<td>3,057.00</td>
<td>5,219.00</td>
<td>2,236.00</td>
<td>221.00</td>
<td>170.00</td>
<td></td>
</tr>
<tr>
<td>Removing guardrail</td>
<td>590.00</td>
<td></td>
<td></td>
<td></td>
<td>900.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removing guardrail anchor</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Removing miscellaneous traffic item</td>
<td>L.S.</td>
<td>L.S.</td>
<td>L.S.</td>
<td>L.S.</td>
<td>L.S.</td>
<td>L.S.</td>
<td></td>
</tr>
<tr>
<td>Removing wire fence</td>
<td>150.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200.00</td>
</tr>
</tbody>
</table>

**Bid Items**

**Non-Bid Items**
## Bid vs. Non-Bid Items

<table>
<thead>
<tr>
<th>Bid Item</th>
<th>Work performed by Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Bid Item or Below the Line Item</td>
<td>Material or work charged to the contract . . .but. . . <em>not</em> furnished or performed by Contractor</td>
</tr>
</tbody>
</table>