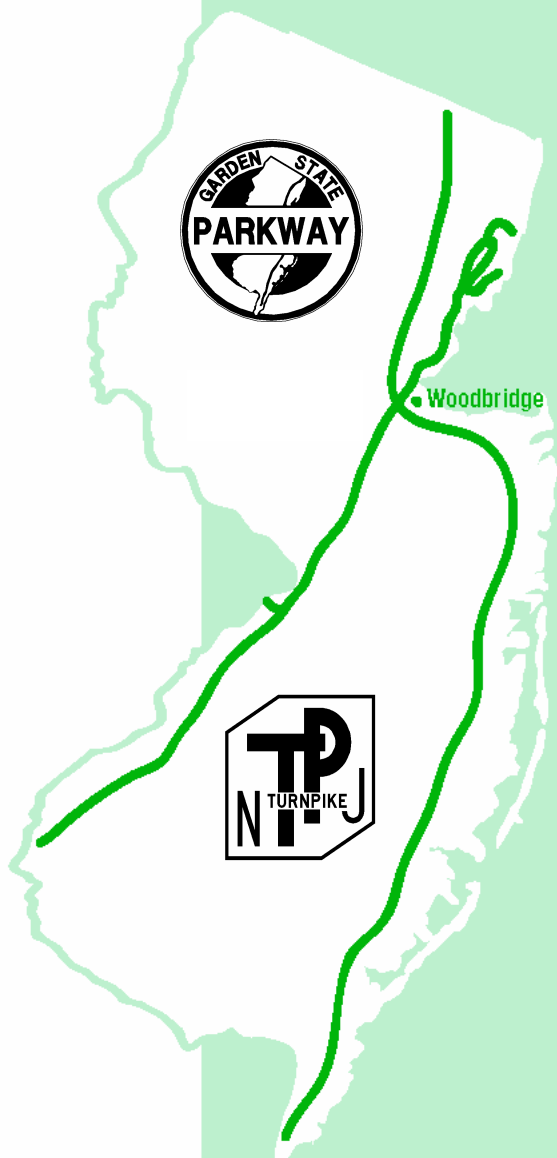


**NEW JERSEY TURNPIKE AUTHORITY
GARDEN STATE PARKWAY
NEW JERSEY TURNPIKE**



**MANUAL FOR UNIT
CODES**

February 2009

NEW JERSEY TURNPIKE AUTHORITY MANUAL FOR UNIT CODES

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SECTION 1 OVERVIEW

The Authority uses CapEx™ Manager (hereinafter referred to as “Capex”), a web-based application, as its capital expenditure manager for construction contracts. Capex tracks construction contracts from advertisement to completion. The Scope of Work of a contract is defined in Capex through the use of unique Proposal Items referred to as “Unit Codes”. It is the Engineer’s responsibility to develop this list of Unit Codes during design.

As of the date of this Manual, there are over 2,000 Unit Codes defined in Capex, about half of which represent Proposal Items identified in the Authority’s Standard Specifications (sixth edition 2004) and the Standard Supplementary Specifications. The other half includes Proposal Items that are not defined in the standards (non-standard items).

The Authority maintains and updates the master Unit Code list through additions, corrections and deletions. The Engineer shall therefore only use the latest Unit Code list. The Engineer shall not create any codes nor assume that codes used in previous contract documents are still valid. It is the Engineer’s responsibility to use as many Unit Codes that already exist in Capex.

SECTION 2 PROCEDURE

2.1. Development of Proposal Items

Design submissions require the development of contract Proposal Items in the form of a list of proposed Unit Codes. Existing Unit Codes can be viewed through a Microsoft Access database application entitled "Unit Code.mdb" which is updated regularly. The Engineer shall obtain the latest copy of the program which is available in a downloadable packet from <http://www.state.nj.us/turnpike/buss.htm>.

2.2. Phase Unit Code Electronic Submissions

The Engineer shall submit two lists of Proposal Items. The first list includes those items for which the Unit Codes are known (these include available standard and non-standard items). This list shall be submitted in excel format with the "Unit Code", "Description" and "Unit" columns only (all text fields). This list shall be referred to as the Known Unit Codes list. For example:

Unit Code	Description	Unit
1D01LAY	CONSTRUCTION LAYOUT	L.S.
1D10MOB	MOBILIZATION	L.S.
1G01SCH	PROGRESS SCHEDULE	L.S.
2A02CAG	CLEARING AND GRUBBING	L.S.
2B02REX	ROADWAY EXCAVATION, EARTH	C.Y.
2B05REX	ROADWAY EXCAVATION, MUCK	C.Y.

The file name of this submission shall be "<Contract No.> Phase < > knowncodes.xls (i.e. "T100.011 Phase B knowncodes.xls").

The second list shall include anticipated Proposal Items for which Unit Codes do not exist. This list shall also be submitted in excel format with "Section" (Proposed Specifications Section Number), "Section Title, If Non-Standard" (Proposed Specifications Section Title), "Description" and "Unit" only. This list shall be referred to as the Requested Unit Codes list. For example:

Section	Section Title, If Non-Standard	Description	Unit
417		Deck Joint Reconstruction	L.F.
428	Fender System	Plastic Lumber	C.F.
503		Outlet Structure	Each

The file name of this submission shall be "<Contract No.> Phase < > requestedcodes.xls (i.e. "T100.011 Phase C requestedcodes.xls").

The method of submittal (i.e. e-mail, CD) shall be determined by the Authority and may vary from contract to contract.

Once submitted, the Authority will check the Known Unit Codes and will address the Requested Unit Codes as follows:

- Find or Issue a Unit Code using the exact anticipated Proposal Item wording.
- Find or Issue a Unit Code using a modified Proposal Item wording: This is done at times to make the description generic enough to allow for Unit Code re-use or to follow existing naming conventions. This may also be encountered if a Unit Code was found to apply to the Proposal Item.
- Request a clarification.

All excel files should be free of titles, merged or hidden cells, equations and links to other cells. All information should be shown on the first worksheet. Remaining worksheets should not contain any information.

2.3. Development of Phase Unit Code Lists

The Engineer shall submit Known Unit Codes and Requested Unit Codes for Phases B, C and D. In most cases, there will be no Requested Unit Codes at Phase D. For these submissions, the list of Unit Codes shall be in the same order as proposed to appear in the contract documents such as the proposal pages and the estimate of quantity sheets and individual quantity boxes on the plans. The Engineer shall notify the Authority if any Unit Codes created specifically for the contract during previous phases are no longer needed.

2.4. Phase D Capex Submission

The Engineer shall submit an additional excel file which contains the final list of Unit Codes. The file shall contain "Unit Code" (text field), "Number of Units" (number field) and "Unit Price" (number field) columns only. The list shall be in the same order as they appear in the contract documents. For example:

Item No.	Item No. Ext	Unit Code	Number of Units	Unit Price
1		1D01LAY	1	100000
2		5K00001	600	30.5

The file name of this submission shall be "<Contract No.> capex.xls (i.e. "T100.011 capex.xls").

2.5. Regarding Non-standard Sections and Items

Non-standard sections are specifications sections not included in the Authority's Standard Specifications (sixth edition 2004). All non-standard sections are issued numbers and titles in Capex sequentially which may not match the contract documents.

The Engineer shall number non-standard section numbers sequentially for their contract documents. For example, if "Sawing and Sealing Joints" (Section 312 in Capex) is the only non-standard section in a contract, the Engineer shall utilize 311 for their contract documents (since 310 is the last standard section). Also, the Engineer can use a different section title if using an item in a non-standard section. For example, the Unit Code 4ZH02SPP, "Furnish Steel Protection Plate" is in Capex Non-standard Section 434 entitled "Steel Protection Plates". The Engineer can use that Unit Code but with a different section title such as "Miscellaneous Structural Items".

Non-standard items are Proposal Items not defined in the Authority's Standard Specifications (sixth edition 2004). These can include Proposal Items issued under standard or non-standard specifications sections. The Engineer should try to use the same specifications section numbering for non-standard Proposal Items issued under standard specifications sections.

SECTION 3

UNIT CODE PROGRAM USERS GUIDE

3.1 Contents

Included in the downloadable packet are the following files:

- Unit Code.mdb: Database application that contains all of the Unit Codes.
- Manual for Unit Codes.doc: Instructions on program use.
- Sample excel spreadsheets used for the database application program features.
- Sample excel spreadsheets required for Phase submissions.

3.2 Introduction

Unit Code.mdb is an Access Database Application which allows a user to look up the latest Unit Codes. The following features are available:

1. Print/View/Search Unit Codes: A user can look up codes through filters and key word searches. A “checkout” feature allows a user to select the items needed for a specific contract. The selected items can be exported in excel format where it can be manipulated into contract documents (i.e. proposal pages, engineer’s estimates). Database includes cost history information.
2. Reports: This feature allows a user to look up Unit Codes added for contracts after September of 2007 via Contract Number and modified bid tabulations which show unit price information only.
3. Check Unit Codes From Spreadsheet: This feature allows a user to check an existing list of Unit Codes for correctness.
4. Check Engineers Estimate: This tool compares an estimate to historical unit price data. ***The Engineer shall be responsible to develop unit costs based on the specific contract requirements, methods of construction, construction sequencing, etc. Each contract is unique and the Engineer shall take all factors into account in the preparation of the contract’s unit costs and the development of the Engineer’s Estimate.***

3.3 Requirements

- System Requirements: Microsoft Access 2003
- Help and Support: Contact Ana Tatoris at 732-750-5300 x8262 or via e-mail at tatoris@turnpike.state.nj.us.

3.4 Directions

Screen shots on the following pages are gray scale. For forms, button backgrounds are color-coded as follows: Reports are blue, Quit/Exit red and Checked Out items are pink. For reports, color coding is explained in each report header or footer.

Open Unit Code.mdb to enter the main menu. See Figure 1.

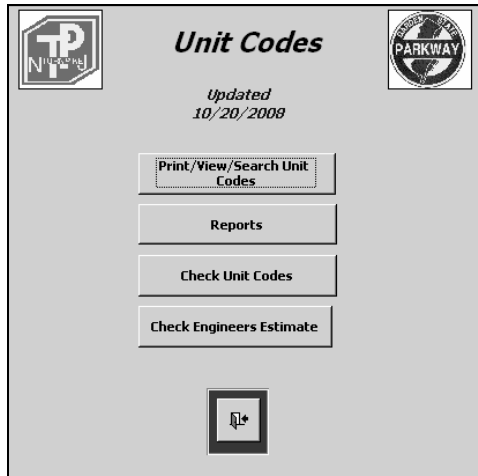


Figure 1) Main Menu.

3.4.1 Print/View/Search Unit Codes:

When the top button (“Print/View/Search Unit Codes”) of the Main Menu is selected, the following form opens:

Filtering by Division

Filtering by Keyword(s)

Quick Find

Checkout

Use these button to print out the Items or Sections currently filtered on the form

NP	Div	Sect	Source	Unit Code	Units	Issued For	Last Contract	Date Updated
<input type="checkbox"/>	N	100	104	Standard				2/9/20
<input type="checkbox"/>		100	104	Standard			P700.119	2/9/20
<input type="checkbox"/>		100	104	Standard			P700.119	2/9/20
<input type="checkbox"/>	N	100	104				T700.069	2/9/20
<input type="checkbox"/>	N	100	106				T200.017	2/9/20
<input type="checkbox"/>	N	100	106				T200.017	2/9/20
<input type="checkbox"/>		100	107	Standard			P700.119	2/9/20
<input type="checkbox"/>	N	100	109	Suppleme				2/9/20
<input type="checkbox"/>	N	200	201				P200.103	2/9/20
<input type="checkbox"/>	N	200	201				P200.044	2/9/20
<input type="checkbox"/>	N	200	201				P500.038	2/9/20
<input type="checkbox"/>		200	201	Standard			P700.119	2/9/20
<input type="checkbox"/>		200	201	Standard			P200.096	2/9/20
<input type="checkbox"/>	N	200	201					2/17/20

Figure 2) Print/View/Search Unit Codes Form.

1. This form allows a user to view Unit Codes filtered by Division, Section or Keywords. It also includes a Quick Find feature.

- Filtering By Division: Division Filters can be applied by selecting/unselecting sections in the top left hand corner. See Figure 3.
- Filtering By Keyword(s): Keyword filters can be used by typing in up to two keywords or strings of texts in the field boxes within the middle top section. This feature is useful when there is uncertainty about the exact wording of an item. **Do not use quotes (“), ‘and’, ‘or’, ‘in’ within the keyword filter boxes.** See Figures 3 and 4.
- Filtering By Division and By Keyword are designed to work together. Using these filters in conjunction with the General Filtering feature described below, however, can only be done in top to bottom order. Use Division and Keyword(s) first, then General Filtering.
- Quick Find: The field box within the top right hand corner can be used in order to determine if a Unit Code exists. See Figure 4.
- General Filtering: A user can filter for a specific Section, Contract or Units, by right clicking the mouse in the appropriate field and selecting either “Filter By Selection”, “Filter Excluding Selection”, or “Filter For:_____”. As indicated before, using these filters in conjunction with the Division or Keyword Filters can only be completed in top to bottom order. Users are cautioned to remember to remove existing Filters by right clicking the mouse and selecting “Remove Filter” or by pressing the “Remove Filter” button on the form. See Figure 5.
- General Sorting: At any time, a user can sort any of the visible fields in ascending or descending order by right clicking on the field desired and selecting “Sort Ascending” or “Sort Descending”. General Sorting works with all filters.
- Printing Lists: At any time, a user can print out a hard copy of the records filtered on the form through Filtering by Division and Keyword(s) only by pressing the “Print Item List” button. To print a list of all items within the database, press the “Print Item List” button with no Division or Keyword filters. Filters through General Filtering (right click) will NOT be reflected in the report. See Figure 6.
- Preview Sections Only: This feature prints out all of the specifications sections of the filtered records on the form. All “Non-Standard” Sections are highlighted in purple. See Figure 6.
- View Price Information: Unit price information for the past year, if available, can be viewed by double-clicking the Unit Code field.

The top screenshot shows the software interface with the following filters and data:

- Select Specifications Division(s):** 100, 500, DOT, 200, 600, 300, 700, 400, 800. Buttons: select all, unselect all.
- Type in portion of Description:** trench, drain. Buttons: Filter, Remove Filter.
- Quick Find:** No Match.
- Table Data:**

NP	Div	Sect	Source	CapEx	Section	Description	Unit Code	Units	Issued For	Last Contract	Date Updated
	500	501			UNDERDRAINS	Clean Existing Trench Drain	N5A0005	L.F.		P200.004	2/9/2
	500	501			UNDERDRAINS	16" Trench Drain	N5A0002	L.F.		P200.004	2/9/2
	500	501			UNDERDRAINS	10" Trench Drain	N5A0001	L.F.		P200.004	2/9/2
N	500	501			UNDERDRAINS	24" Trench Drain	5A00005	L.F.	T869.120.f		2/17/2
	700	705	Standard		PLANTING	Subdrainage in Trenches	7E31DRN	L.F.			2/9/2

The bottom screenshot shows the same interface with the following filters and data:

- Select Specifications Division(s):** 100, 500, DOT, 200, 600, 300, 700, 400, 800. Buttons: select all, unselect all.
- Type in portion of Description:** trench drain. Buttons: Filter, Remove Filter.
- Quick Find:** No Match.
- Table Data:**

NP	Div	Sect	Source	CapEx	Section	Description	Unit Code	Units	Issued For	Last Contract	Date Updated
	500	501			UNDERDRAINS	Clean Existing Trench Drain	N5A0005	L.F.		P200.004	2/9/20
	500	501			UNDERDRAINS	16" Trench Drain	N5A0002	L.F.		P200.004	2/9/20
	500	501			UNDERDRAINS	10" Trench Drain	N5A0001	L.F.		P200.004	2/9/20
N	500	501			UNDERDRAINS	24" Trench Drain	5A00005	L.F.	T869.120.f		2/17/20

Figure 3) Examples showing Filtering By Division and Keyword(s): Note the different methods used to find all “trench drain” items within all Divisions.

The screenshot shows the software interface with the following filters and data:

- Select Specifications Division(s):** 100, 500, DOT, 200, 600, 300, 700, 400, 800. Buttons: select all, unselect all.
- Type in portion of Description:** clearing, grubbing. Buttons: Filter, Remove Filter.
- Quick Find:** No Match.
- Table Data:**

NP	Div	Sect	Source	CapEx	Section	Description	Unit Code	Units	Issued For	Last Contract	Date Updated
	200	201	Standard		CLEARING AND GRUBBING	Clearing and Grubbing	2A01CAG	Acre		P200.096	2/9/20
	200	201	Standard		CLEARING AND GRUBBING	Clearing and Grubbing	2A02CAG	L.S.		P700.119	2/9/20

Figure 4) Example showing Filtering By Keyword(s) “clearing” and “grubbing”, and using Quick Find to determine if “2B01REX” exists.

The screenshot shows a context menu with the following options:

- Filter By Selection
- Filter Excluding Selection
- Filter For: 301
- Remove Filter/Sort
- Cut
- Copy
- Paste
- Sort Ascending
- Sort Descending
- Insert Object...
- Hyperlink
- Properties

Figure 5) Example showing General Filtering of the field “Section” for number “301”. This tool is available when the user right clicks in any field. Note other filtering and sorting options.

Unit Code List	Keyword Filter 1	Keyword Filter 2	District Filters	400	(1) Contract Number last Used (2) "Standard" if Unit Code is a Pay Item defined in the Standard Specifications 2004 "Supplement" if Unit Code is a Pay Item defined in the Standard SUPPLEMENTS
<i>SECTIONS in Purple Signifies a "Non-Standard" Section</i>					
DIVISION 400					
Section 401	Section - Per CapEx	Section 401 - CONCRETE STRUCTURES			Latest Contract (1)
<i>Source (2)</i>	Item ID	Description	Units		
1)	Standard 4A00001	Concrete Seal in Cofferdams	C.Y.	T300.064	
2)	4A00002	Modular Expansion Joint, (Type A "9" Movement)	L.F.		
3)	4A00003	Precast Rigid Frame	L.F.	T300.064	
4)	4A00004	Concrete Collar	Each		
5)	Standard 4A01CCS	Concrete Core Sampling	Each	T100.042	
6)	Standard 4A01CSH	Concrete In Structures, Headwalls	C.Y.	P200.021	
7)	Standard 4A01LMC	Latex Modified Concrete Overlay, 1/2" Thick	C.Y.		
8)	Standard 4A01LSO	LowSlump High Density Concrete Overlay, 1/2" Thick	S.Y.		

Section Listing	Keyword Filter 1	Keyword Filter 2	District Filters	100 200 300 400 500 600 700	800 900
<i>All Non-Standard Sections are shown in PURPLE</i>					
DIVISION 100					
<i>Section 104 - CONTROL OF WORK</i>					
<i>Section 106</i>					
<i>Section 107 - PROSECTON AND PROGRESS</i>					
<i>Section 109</i>					
DIVISION 200					
<i>Section 201 - CLEARING AND GRUBBING</i>					
<i>Section 202 - ROADWAY EXCAVATION</i>					
<i>Section 203 - EMBANKMENT</i>					
<i>Section 204 - CHANNEL EXCAVATION</i>					
<i>Section 205 - FOUNDATION EXCAVATION</i>					
<i>Section 206 - TRENCH EXCAVATION</i>					
<i>Section 207 - STONE FOR EROSION CONTROL</i>					
<i>Section 208</i>					
<i>Section 209 - SUBGRADE</i>					
<i>Section 210 - DEMOLITION OF EXISTING STRUCTURES</i>					
<i>Section 211 - TEMPORARY FENCING</i>					
<i>Section 212 - SUBBASE</i>					

Figure 6) Report generated from "Print Item List" (top) and "Preview Sections Only" (bottom). Note the applicable Keyword and District Filters are indicated in the header and all "Non-Standard" Sections are shown in green.

- The checkout feature allows a user to export a list of Unit Codes in electronic format. The list can later be pasted or imported into the user's contract documents such as contract sheets, proposal pages or the Engineer's Estimate. While looking up Unit Codes, a user can "check" ✓ the items required for a Contract.
 - Checkout Items: Click the check out box adjacent to the item. All checked items will turn pink. The items remain checked (even if the user exits and re-enters the program) until the button "Uncheck All" is pushed. See Figure 7.
 - View Checkout Items: Press the "Print Checkout Items" button OR right click the check box and select "Filter by Selection. See Figures 8 and 9.
 - Export Checkout Items in Excel: Press the "Export Checkout Items in Excel" button. An output file "export.xls" will be created in the folder selected. See Figure 10.
 - Import Checkout List: Allows the user to import the items to the checkout list that are in an export checkout excel file format. This is useful for users that are actively working on developing a checkout list when a new version of the database is issued by the Authority. The user can then export the list from the "old" version, download the new database, then import the previous checkout list.

check out	NP	Div	Sect	Source	CapEx	Section	Description	Description	Unit Code	Units	Issued For	Last Contract
<input checked="" type="checkbox"/>	N	100	104				CONTROL OF WORK	Construction Layout for COP #1 Structures	1D02LST	L.S.		hist
<input type="checkbox"/>		100	104	Standard			CONTROL OF WORK	Mobilization	1D10MOB	L.S.		hist
<input type="checkbox"/>		100	104	Standard			CONTROL OF WORK	Construction Layout	1D01LAY	L.S.		hist
<input type="checkbox"/>	N	100	104				CONTROL OF WORK	As-Built Survey	N1D0001	L.S.	T700.069	hist
<input type="checkbox"/>	N	100	106					Concrete Washout Facility	N1F0001	L.S.		hist
<input checked="" type="checkbox"/>	N	100	106					Oil Only Emergency Spill Kit	N1F0002	Each		hist
<input checked="" type="checkbox"/>		100	107	Standard			PROSECTIONS AND PROGRESS	Progress Schedule	1G01SCH	L.S.		hist
<input checked="" type="checkbox"/>	N	100	109	Supplement				Maintenance Bond	1101MAB	L.S.		hist

Figure 7) Check Items Feature. Checked items are shaded pink.

Checkout Items Report

Source	Item ID	Description	Units	Averages over 1 Year				Total over 1 Year	
				Cost	Max	Min	Qty	Contracts	Bidders
<i>Section 104 - CONTROL OF WORK</i>									
1)	N1D0001	As-Built Survey	L.S.	\$16,101.00	\$25,000.00	\$5,000.00	1	1	5
<i>Section 107 - PROSECTIONS AND PROGRESS</i>									
2)	Standard	1G01SCH	Progress Schedule	Lump	\$8,358.72	\$50,000.00	\$1.00	1	10
<i>Section 109</i>									
3)	Supplement	1101MAB	Maintenance Bond	L.S.	-----No Cost Data Available-----				
<i>Section 401 - CONCRETE STRUCTURES</i>									
4)	Standard	4A06LMC	Latex Modified Concrete Overlay, 1-3/4" Thick	S.Y.	-----No Cost Data Available-----				
5)	Standard	4A06LSO	LowSlump High Density Concrete Overlay, 1-3/4" Thick	S.Y.	-----No Cost Data Available-----				
6)	Standard	4A06OVY	Class B Concrete Overlay 1-3/4" Thick	S.Y.	-----No Cost Data Available-----				

Figure 8) Report generated from "Print Checkout Items". Note unit price information is included in this report.

Select Specifications Division(s)

100 500 DOT

200 600

300 700

400 800

AND/OR

Type in portion of Description i.e. "concrete". Do not use quotes, commas, "and", "or" or "in" within the boxes

Quick Find - Type in proposed Item. If it exists, you will see Sect. and Description

Section 202 - ROADWAY EXCAVATION

Lump Sum Roadway Excavation, Earth

Double Click Here to View Price Info.

check out	NP	Div	Sect	Source	CapEx	Section and Description	Description	Unit Code	Units	Issued For	Last Contract
<input checked="" type="checkbox"/>	N	100	104			Section 104 - CONTROL OF WORK	As-Built Survey	N1D0001	L.S.	T700.069	T700.069
<input checked="" type="checkbox"/>		100	104	Standard		Section 104 - CONTROL OF WORK	Construction Layout	1D01LAY	Lump Sum		T200.017
<input checked="" type="checkbox"/>	N	100	106			Section 106	Oil Only Emergency Spill Kit	N1F0002	Each		T200.017
<input checked="" type="checkbox"/>		200	202	Standard		Section 202 - ROADWAY EXCAVATION	Overload Removal	2B200VR	C.Y.		T200.017
<input checked="" type="checkbox"/>		200	202	Standard		Section 202 - ROADWAY EXCAVATION	Roadway Excavation and Embankment	2B04REX	C.Y.		P200.021
<input checked="" type="checkbox"/>	N	200	202			Section 202 - ROADWAY EXCAVATION	Basin and Swale Excavation	2B00001	C.Y.	P300.043	

Figure 9) Form filtered for all checked out items.

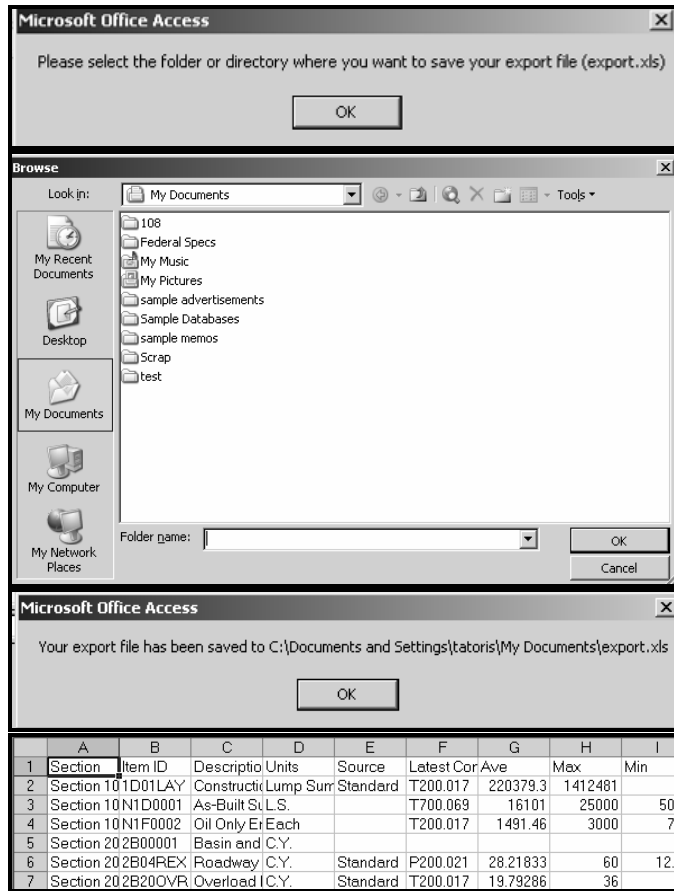


Figure 10) Various prompts to select folder where the “export.xls” file is to be saved. The bottom figure includes a view of the export.xls file.

3.4.2. View Reports:

When the button (“Reports”) of the Main Menu is selected, the following form opens:

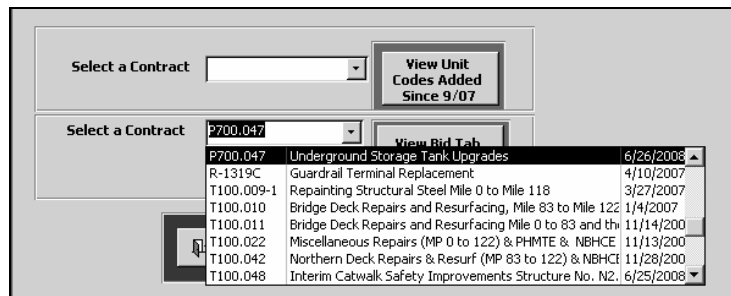


Figure 11) Top combo box shows Unit Codes added per Contract. The bottom combo box shows modified bid tabulation reports (unit prices only).

This form allows the user to print items added specifically for a recent Contract. This data is only available for the Contracts entered since the fall of 2007 when the Authority began to track this information (See Figure 12). The second type of report prints out a modified bid tabulation consisting of unit price information only (See Figure 13).

Unit Codes Recently Added

Contract 7700.069

Section	Item ID	Description	Units
1 Section 104 - CONTROL OF WORK	N1D0001	As-Built Survey	L.S.
2 Section 202 - ROADWAY EXCAVATION	N2B0002	Dewatering	L.S.
3 Section 207 - STONE FOR EROSION CONTROL	2G00001	Riprap and Scour Holes	Ton
4 Section 207 - STONE FOR EROSION CONTROL	2G06SEC	Stone for Erosion Control	Ton

Figure 12) Report generated when the Contract is selected.

Unit Price Information

Unit High Price (Yellow)
Unit Low Price (Blue)

Contractor Name in Green denotes Low Apparent Bidder
Contractor Name in Orange denotes Lowest Responsible Bidder if different from Low Apparent Bidder

P700.047 6/26/2008
Underground Storage Tank Upgrades

ID	Description	Unit	Quantity	Average	SLACK, TED ENVIRONMENTAL SERVICES, INC.	INDEPENDENCE CONSTRUCTORS, INC.	PALMER WEST ASSOC., INC. T/A ABJ CONSTRUCTION CO.	SPARK ELECTRIC SERVICE, INC.
1	ID10MOB Mobilization	L.S.	1	\$92,081.25	\$99,441.00	\$150,884.00	\$50,000.00	\$68,000.00
2	8B31MPT Maintenance and Protection of Traffic	L.S.	1	\$6,875.00	\$10,000.00	\$5,000.00	\$10,000.00	\$2,500.00
3	9C00001 Remove and Replace LSTs at Maintenance District 2U	L.S.	1	\$239,497.50	\$204,080.00	\$235,500.00	\$285,000.00	\$233,410.00
4	9C00002 Remove and Replace LSTs at Bass River Base Bid	L.S.	1	\$204,884.00	\$182,526.00	\$282,250.00	\$175,000.00	\$179,760.00
5	9C00003 Extend Existing Ballast Pad for Tank E-61 at Bass River	L.S.	1	\$7,772.50	\$11,590.00	\$5,000.00	\$4,500.00	\$10,000.00
6	9C00004 Remove, Dispose of and Replace Existing Ballast Pad for Tank E-61 at Bass River	L.S.	1	\$17,535.00	\$22,540.00	\$14,600.00	\$18,000.00	\$15,000.00
7	9C00005 Remove, Dispose of and Replace Existing Ballast Pad for Tank E-60 at Bass River	L.S.	1	\$20,035.00	\$22,540.00	\$14,600.00	\$28,000.00	\$15,000.00
8	9C00006 Upgrade Tank E-41 at Woodbridge Motor Pool	L.S.	1	\$90,911.75	\$72,412.00	\$122,860.00	\$99,000.00	\$69,375.00
9	9C00007 Remove, Replace and Upgrade LSTs at Maintenance District No. 1	L.S.	1	\$200,851.00	\$149,069.00	\$253,600.00	\$250,000.00	\$150,735.00
10	9C00008 Remove and Replace LST at Maintenance District No. 6	L.S.	1	\$162,446.75	\$105,762.00	\$170,800.00	\$244,000.00	\$129,225.00
11	9C00009 Excavation and Stockpiling of Contaminated Soil	Ton	2000	\$13.75	\$10.00	\$10.00	\$17.00	\$18.00
12	9C00010 Additional Backfill to Replace Contaminated Soil	Ton	2000	\$25.19	\$30.00	\$24.75	\$28.00	\$18.00
13	9C00011 Loading, Transportation and Disposal of Contaminated Soil	Ton	2000	\$55.73	\$60.00	\$64.90	\$43.00	\$5.00
14	9C00012 Removal and Disposal of Contaminated Groundwater	Gallon	75000	\$0.77	\$1.00	\$0.49	\$1.05	\$0.55
15	9C00013 Mobilization of Vacuum Truck	Each	12	\$547.00	\$800.00	\$488.00	\$250.00	\$650.00
				\$1,296,716.25	\$1,164,560.00	\$1,497,000.00	\$1,421,250.00	\$1,104,055.00

Figure 13) Report generated when the Contract is selected. Report shows unit prices by bidders by contract. High and low unit prices are highlighted and averages are calculated. The bottom of the report does show total bid amount and % difference from the EE.

3.4.3. Check Unit Codes from Spreadsheet:

When the bottom button (“Check Unit Codes”) of the Main Menu is selected, the following form opens:

Spreadsheet Must have the fields: "Unit Code", "Description" and "Unit" Must be saved as an Excel File on your computer or network.

example

Unit Code	Description	Unit
ID10MOB	Mobilization	Lump Sum
1G01SCH	Progress Schedule	Lump Sum
2B25RBS	Regrade Berm	C.Y.

Show All Items In Unit Code Order

Show All Items In Spreadsheet Order

Show Missing Items In Spreadsheet Order

Figure 14) Check Unit Codes from Spreadsheet form.

The last option allows the user to check whether a spreadsheet has the correct Unit Codes. This feature is useful if a consultant is working off of an existing electronic list of items. The spreadsheet to be checked must be saved as an Excel File and be accessible from the user’s computer. The fields must be named “Unit Code”, “Description” and “Unit” (See Section 2.2). For best results, use a “clean”

spreadsheet, free of merged cells, references, equations, macros, formats, hidden columns or rows. Since this tool compares units for an exact match to the database, the Engineer should use the list of units in Appendix A which are the standard units currently used by the Authority. See Figure 15.

There are three reports available. The first lists all items in Unit Code order. See Figure 16. The second lists all items in the same order as the Spreadsheet. The last report shows ONLY those items that are missing Unit Codes. In the first two reports, all items that have incorrect or missing Unit Codes are highlighted. All descriptions and units that do not match exactly are also highlighted. See Figure 17.

	A	B	C
1	Unit Code	Description	Unit
2	4a20cdr	Concrete Divider Replacement	LF
3	n4a0013	Parapet Replacement, Str. No. 149.1A	LF
4	n4a0014	Parapet Replacement, Str. No. 150.3A	LF
5	n4l0002	Modify 8" Drainage Pipe, Str. No. 138.6	LS
6	n4z0001	Clean and Waterproof Concrete Parapets	SF
7	5zo0002	Parapet Anchor Bolt Replacement	Each
8	5zo0003	Railroad Protective Barrier	LF
9	4a11sfo	Silica Fume Concrete Overlay, 1-1/4" Thick	C.Y.
10	4a40rfs	Mechanical Coupler	Unit
11	4r121ss	Repair Structural Steel, Type A	Each
12			

Figure 15) Sample "checkitems.xls" file.

ITEMS MISSING

This report lists all items in the Unit Code field of the c:\Documents and Settings\All Users\Documents\checkitems.xls spreadsheet. If the item does not exist in CapEx, it will be highlighted

In Ascending Unit Code Order

Item Descriptions, Units and Section AS they appear in CapEx

Unit Code	Description	Units	Section
4a11sfo	Silica Fume Concrete Overlay, 1-1/4" Thick	C.Y.	
	Silica Fume Concrete Overlay, 3" Thick	S.Y.	Section 401 - CONCRETE STRUCTURES
4a20cdr	Concrete Divider Replacement	LF	
	Concrete Divider Replacement	L.F.	Section 401 - CONCRETE STRUCTURES
4a40rfs	Mechanical Coupler	Unit	
	Mechanical Coupler	Each	Section 401 - CONCRETE STRUCTURES
4r121ss	Repair Structural Steel, Type A	Each	
MISSING			
5zo0002	Parapet Anchor Bolt Replacement	Each	
	Parapet Anchor Bolt Replacement	Each	Section 541 - MISCELLANEOUS SECTION 500 ITEMS
5zo0003	Railroad Protective Barrier	LF	
	Railroad Protective Barrier	L.F.	Section 541 - MISCELLANEOUS SECTION 500 ITEMS
n4a0013	Parapet Replacement, Str. No. 149.1A	LF	
	Parapet Replacement, Str. No. 149.1A	L.F.	Section 401 - CONCRETE STRUCTURES
n4a0014	Parapet Replacement, Str. No. 150.3A	LF	
	Parapet Replacement, Str. No. 150.3A	L.F.	Section 401 - CONCRETE STRUCTURES
n4l0002	Modify 8" Drainage Pipe, Str. No. 138.6	LS	
	Modify 8" Drainage Pipe, Str. No. 138.6	L.S.	Section 412 - BRIDGE DRAINAGE STRUCTURES
n4z0001	Clean and Waterproof Concrete Parapets	SF	
MISSING			

Figure 16) Sample report in Ascending Unit Code Order. Note: If a Unit Code in the checkitems.xls spreadsheet does not match any of the Unit Codes in the database, it is highlighted as "MISSING".

this contract. The Lump Sum price is \$250,000. Enter a Unit Price of \$250,000 as your bid for this item.)

4R1BSR	Sidewalk, Parapet and Curb Surface Repairs	S.F.	
MIS SIING			
4R01RSC	Vertical Spall Repair	S.F.	
MIS SIING			
4ZH03SPP	Picking Up and Returning Authority's Steel Protection Plates	L.S.	
	Picking Up and Returning Authority's Steel Protection Plates	LS	Section 434 - STEEL PROTECTION PLATES
4ZM02HPC	Concrete in Deck Slabs, HPC	C.Y.	
	Concrete in Deck Slabs, HPC	C.Y.	Section 439
5B01CSD	Cleaning Existing Storm Drains	Each	
	Cleaning Existing Storm Drains	L.F.	Section 502 - STORM DRAINS
5J01P CG	Parapet Connection, Type G	Each	
	Parapet Connection, Type G	Each	Section 510 - GUARD RAIL
5J01P CTB	Parapet Connection, Type TB	Each	
	Parapet Connection, Type TB	Each	Section 510 - GUARD RAIL
5J20RGA	Raise Guard Rail, Type A	L.F.	
	Raise Guard Rail, Type A	L.F.	Section 510 - GUARD RAIL
5J51E TW	Extruder Terminal	Each	
	Extruder Terminal	Each	Section 510 - GUARD RAIL
5K01BRF	Bridge Fencing, 100" High	L.F.	
	Bridge Fencing, 80" High	L.F.	Section 511 - FENCING
5K02BRF	Bridge Fencing, Curved Top, 107" High	L.F.	
	Bridge Fencing, Curved Top, 107" High	L.F.	Section 511 - FENCING

Figure 17) Sample report showing missing numbers AND units and descriptions that do not match. Note that even if the units are highlighted as not matching, they may be correct (i.e. LS vs. L.S.).

3.4.4. Check Engineer's Estimate:

When the "Check Engineer's Estimate" button is selected on the main menu, the following form opens:

Spreadsheet Must have the fields: "Unit Code", "Unit Price" and "Quant"

example	Unit Code	Unit Price	Quant
	1D10MOB	125000	1
	1G01SCH	30000	1
	2B25RBS	420	56

From Date: 4/3/2008 [5 mo] 12 mo 18 mo all

To Date: 10/2/2008

Load Spreadsheet

Figure 18) Users are able to compare unit prices in their engineer's estimate to historical prices.

Check Engineer's Estimate Using Bid Data from 6/2/2008 to 12/1/2008 % Diff compares the EE unit price to the "Average"

Prices herein are for information. This information shall not be used directly for the development of estimates. Costs for Engineer Estimates shall still be derived specifically for each contract.

	No of Contracts	Total Quantity	Quantity	EE (N/A)	Averages over Time Period				Contract Info			
					Average	Max	Min	No Bidders	Unit Price	Quant	% Diff (Avg)	
1	1D01LAY L.S.	Construction Layout	5	5	1	\$413,651.71	\$2,515,000.00	\$1.05	6.60	\$300,000.00	1	-27.48%
2	1D10MO L.S.	Mobilization	12	12	1	\$889,881.41	\$9,200,000.00	\$10,000.00	5.75	1,000,000.00	1	12.37%
3	1G01SCH L.S.	Progress Schedule	7	7	1	\$22,100.33	\$200,000.00	\$1.00	6.43	\$50,000.00	1	126.24%
4	2A02CAG L.S.	Clearing and Grubbing	4	4	1	\$383,165.38	\$2,125,000.00	\$5,000.00	7.00	\$20,000.00	1	-94.78%
5	2B02REX C.Y.	Roadway Excavation, Earth	5	130101	26020.2	\$44.96	\$400.00	\$1.00	6.60	\$25.00	36114	-44.40%

Figure 19) Report comparing unit prices to a historical average. Users can select any range of dates.

Approved Units for Proposal Items

Approved Units	Definition, If Different
Acre	
Bag	
Barrel	
C.F.	Cubic Foot
C.P.	Cost Plus
C.Y.	Cubic Yard
Crew Days	
Each	
Each 55 Gal. Drum	
FBM	Foot Board Measure
Gallon	
Hour	
L.F.	Linear Foot
L.S.	Lump Sum
M.G.	Mega Gallons
M.H.	Man Hours
MFBM	1000 Feet Board Measure
Month	
Pound	
S.F.	Square Foot
S.Y.	Square Yard
Thousand Gallons	
Ton	
Unit	
Week	

APPENDIX B ABOUT SPECIAL UNIT CODES

Some Unit Codes are placed under special categories as follows:

- **DO NOT USE** – Unit code descriptions are preceded with “DO NOT USE” when Authority policy or practice calls for the unit code to be inactivated. These unit codes are still visible in the database since they are part of previous bid tabulations and have cost information. New Contracts should not use any DO NOT USE items in their Phase B or C submissions. A Unit Code in the DO NOT USE category that does not have any bid history may be deleted from the system.
- **RESERVED** – A Unit Code request that is questionable is preceded with “RESERVED”. In other words, the Authority will issue the Unit Code as requested but may be asking for a description or unit change to better fit Authority naming conventions. New Contracts using a RESERVED item are cautioned that the description may change.
- **TO BE REASSIGNED** – A Unit Code that is no longer required for a contract *AND* has not been requested on another Contract is preceded with “TO BE REASSIGNED”. This means that if another Consultant does not request that Unit Code within a few months, the Unit Code may be re-used.