# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

DONALD L. WOLFE, Director

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IN REPLY PLEASE
REFER TO FILE: WM-6

August 31, 2006

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

**AMENDMENT TO THE ANTELOPE VALLEY FINAL REPORT ON THE COMPREHENSIVE PLAN OF FLOOD CONTROL AND WATER CONSERVATION**
**SUPERVISORIAL DISTRICT 5**
**3 VOTES**

**IT IS RECOMMENDED THAT YOUR BOARD, AFTER A PUBLIC HEARING:**

Approve the enclosed Amendment to the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation (Plan), which increases the fees for drainage facilities to be paid by subdividers in the Antelope Valley Drainage Area, pursuant to County Code, Section 21.32.400, and provides for the annual review and adjustment of such fees corresponding to future increases in the Construction Cost Index for the Los Angeles area.

**PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION**

In 1987 your Board approved the Plan prepared by the County of Los Angeles Department of Public Works. The goal of the Plan is to address drainage issues created by development in the absence of a coordinated regional flood control district. The Plan requires developers of new subdivisions in County unincorporated areas of the Antelope Valley Drainage Area to pay an impact fee that would eventually fund the planning, design, and construction of the Plan's proposed infrastructure. To date, these fees have paid for regional coordination and planning efforts and the acquisition of right of way for future drainage facilities.

The Plan contains provisions for updating costs and drainage fee calculations, but to date there have been no fee increases. Since 1987 the Construction Cost Index shows that costs have significantly increased. At the same time, development of the Antelope Valley has increased and is expected to continue. Annexation and zoning have altered the type and amount of development in the Antelope Valley Drainage Area. Therefore, we propose that the existing fees be revised to reflect the updated cost of construction and the current type and amount of development occurring within the Antelope Valley Drainage Area. The supporting data for the proposed fee increase, including detailed engineering quantity, costs, and analysis is enclosed (Attachments 1-11).

The fees set forth herein shall be reviewed annually by the Director of Public Works. Beginning on July 1, 2007, and thereafter on each succeeding July 1, the amount of each fee shall be adjusted as follows: calculate the percentage movement between March of the previous year and March of the current year in the Construction Cost Index for all urban construction in the Los Angeles area, as published by the Engineering News Record statistics, adjust each fee by the said percentage amount and round up to the nearest dollar. However, no adjustment shall decrease any fee and no fee shall exceed the reasonable cost of providing services. When it is determined that the amount reasonably necessary to recover the cost of providing services is in excess of this adjustment, the Director may present fee revision proposals to the Board of Supervisors for approval.

## Implementation of Strategic Plan Goals

This action meets the County Strategic Plan Goal of Fiscal Responsibility by providing a sufficient fund for future planning, design, and construction of drainage facilities in the Antelope Valley.

## FISCAL IMPACT/FINANCING

There is no impact to the County General Fund. The fee increase will increase the revenue for the Antelope Valley Drainage Fee District Fund.

## FACTS AND PROVISIONS/LEGAL REQUIREMENTS

The Antelope Valley Drainage Area fees are imposed on developers pursuant to Section 66483, et seq., of the Government Code. Section 66483 authorizes the County to impose, by ordinance, a requirement for the payment of fees to defray the actual or

estimated costs of constructing planned drainage facilities for the removal of surface and stormwater from local or neighborhood drainage areas.

The County's ordinance implementing this authorization, generally, is codified in Section 21.32.400 of the Los Angeles County Code.

The Antelope Valley Drainage Area in particular was adopted in 1987 by Ordinance 87-0083, based on the Plan.

Part V., Section E of the Plan provides as follows:

> Development of the land located within the Antelope Valley Drainage Area is not constant nor is the cost of construction. Therefore, in order to equitably assess future development as well as collect sufficient funds to construct those facilities attributable to future development, it is necessary to periodically evaluate the Construction Cost Index and the type and amount of development being constructed within the Antelope Valley Drainage Area. With this information, the drainage fee may be increased or decreased as appropriate.

Pursuant to Section 66018 of the Government Code, prior to adopting an ordinance, resolution, or other legislative enactment approving an increase in an existing fee, the County must hold a public hearing at which oral or written presentations can be made. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, must be published in accordance with Section 6062(a) of the Government Code. Section 6062(a) requires that the notice be published for ten days in a newspaper regularly published once a week or more often, or in two publications with at least five days intervening between the dates of first and last publication not counting such publication dates being sufficient.

The enclosed Amendment has been reviewed by County Counsel and approved as to form.

## ENVIRONMENTAL DOCUMENTATION

A Negative Declaration for the Plan was approved by your Board in connection with the adoption of the Antelope Valley Drainage Area on June 23, 1987.

## IMPACT ON CURRENT SERVICES (OR PROJECTS)

There would be no adverse impact on current services.

## CONCLUSION

Please return three adopted copies of this letter to Public Works.

Respectfully submitted,

DONALD L. WOLFE
Director of Public Works

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Enc.

cc: Auditor-Controller
Chief Administrative Office
County Counsel

# AMENDMENT TO ANTELOPE VALLEY FINAL REPORT ON THE COMPREHENSIVE PLAN OF FLOOD CONTROL AND WATER CONSERVATION, JUNE 1987

The Los Angeles County Department of Public Works hereby proposes the following amendments to the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation dated June 1987 (Plan).

Section IV.E, paragraphs 1 and 2, page 6, of the Plan are hereby amended to read as follows:

> The comprehensive plan proposes flood plain management in the hillside areas of the valley, nonstructural management approaches in the rural areas, and structural improvements in the urbanizing area. The structural improvements proposed for the urbanizing areas of the valley include 8 basins ranging in size from 30 to 150 acres, 119 miles of open channels, and 72 miles of storm drains.
>
> The estimated total cost of the Plan for both the unincorporated and incorporated areas, including acquisition of necessary rights of way is:

| | |
|---|---|
| Basins | $222,018,617.80 |
| Channels | 869,037,246.00 |
| Storm Drains | 311,945,040.00 |
| Total Cost | $1,403,000,903.80 |

Section V.D on pages 8 and 9 of the Plan is hereby amended to read as follows:

> Future development in the Antelope Valley will increase storm runoff and will contribute to the need for management of storm runoff. Without the comprehensive plan, the threat of flood damage could impede the approval of additional development due to the health and safety risks involved. In order to ensure the equitable involvement of the private sector in financing the drainage facilities attributable to future development in the unincorporated County territory, the proposed drainage fee is based on the extent future development occurs in the unincorporated County territory and either benefits from construction of the drainage facilities funded by the comprehensive plan or contributes to the need for the comprehensive plan.
>
> The cost of that portion of the comprehensive plan attributable to future development in the unincorporated areas of the Antelope Valley is determined as follows:

| | |
|---|---|
| Total Cost of plan | $1,403,000,903.80 |
| Cost attributable to incorporated territory | -851,975,058.00 |
| Cost attributable to existing development in unincorporated areas | -67,649,261.05 |
| Cost attributable to future development in unincorporated areas | $483,376,584.75 |

The benefits realized by existing entities and development will be funded from local and Federal sources, such as the Cities of Lancaster and Palmdale, the City of Los Angeles Department of Airports, Edwards Air Force Base, U.S.A.F. Plan 42, and the County of Los Angeles.

The three categories used in calculating the drainage fee are related to intensity of land use and the proportionate contribution to the increase in runoff. These categories are single-family development, multifamily development, and commercial/industrial development. A multifamily development contributes approximately one-half as much runoff as a single-family development, and one acre of commercial/industrial development contributes runoff approximately equivalent to five single-family units on the same acre.

It is anticipated that future divisions of land within the Antelope Valley Drainage Area will create approximately 54,087 single-family lots, 5,207 multifamily dwelling units, and 6,333 acres of commercial development. These divisions were calculated by the County of Los Angeles Department of Public Works based on data in the Department of Regional Planning's Zoning Ordinance Summary and current and projected development trends.

An equation can be written to calculate the drainage fee based on the cost of the plan attributable to future development, the relative contribution of runoff from each category of land use, and anticipated future divisions of land.

SFDF = Single-family drainage fee
MFDF = Multifamily drainage fee = ½ SFDF
CDDF = Commercial/Industrial development drainage fee = 5 SFDF

Anticipated Future Development X Drainage Fee per Development = Cost of the Project Attributable to Future Development.

(54,087 units) (SFDF) + (5,207 units) (1/2 SFDF) + (6,333 acres) (5SFDF) = $483,376,584.75

(88,355 SFDF) = $483,376,584.75 SFDF = $ 5,471

Therefore, the proposed drainage fee for 2006 should be:

| | |
|---|---|
| Single-family Unit | $ 5,500* |
| Multifamily Unit | $ 2,750* |
| Acre Commercial/ Industrial Land | $27,500* |

* Figures are rounded up per the Los Angeles County Auditor-Controller.

In order to lessen the short-term impact to the development community, drainage fees will be phased in pursuant to the schedule depicted in the following table. On July 1, 2009, there will be a one-time adjustment to bring the 2006 fees to current 2009 values per the CCI.

| Schedule | $ Per SFR Unit | $ Per Multifamily Unit | $ Per Comm./Indus. Acre |
|---|---|---|---|
| Effective 60 days after adoption | 3,200 | 1,600 | 16,000 |
| Effective July 1, 2007 | 4,400 | 2,200 | 22,000 |
| Effective July 1, 2008 | 5,500 | 2,750 | 27,500 |
| Effective July 1, 2009 | 2006 fees would be brought to 2009 values per a CCI adjustment and adjusted annually thereafter as proposed in Section V.E. | | |

Section V. E., commencing on page 9 of the Plan is hereby amended to read as follows:

Development of the land located within the Antelope Valley Drainage Area is not constant nor is the cost of construction. Therefore, in order to equitably assess future development as well as collect sufficient funds to construct those facilities attributable to future development, it is necessary to periodically evaluate the Construction Cost Index and the type and amount of development being constructed within the Antelope Valley Drainage Area. With this information, the drainage fee may be increased or decreased as appropriate.

Additionally, beginning on July 1, 2010, and thereafter on July 1 of each succeeding year, the fees set forth herein shall be reviewed by the Director of Public Works and the amount of each fee shall be adjusted as follows: calculate the percentage movement between March of the previous year and March of the current year in the Construction Cost Index for all urban construction in the Los Angeles area, as published by the Engineering News Record statistics, and adjust each fee by said percentage amount and round up to the nearest dollar. No adjustment shall decrease any fee. The foregoing notwithstanding, the fees set forth herein shall not exceed the estimated reasonable cost of providing the services and facilities described in this Plan. If it is determined that the reasonable amount necessary to recover the costs of providing the services and facilities described in this Plan exceeds this adjustment, the Director of Public Works may present fee proposals to the Board of Supervisors for approval.

Date 10/19/06

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

By _____
Deputy

APPROVED AS TO FORM:

RAYMOND G. FORTNER, JR.
County Counsel

By _____
Deputy County Counsel

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DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN'S DRAINAGE FEES
REVENUE AND EXPENDITURE COMPARISON
FY 2002-03 THROUGH FY 2004-05

| Description | FY 2002-03 | FY 2003-04 | FY 2004-05 | Total |
|---|---|---|---|---|
| Revenues [1]: | | | | |
| Revenue Source 8322 - Excavation Permit-Act Cost | 0.00 | 535.01 | 0.00 | 535.01 |
| Revenue Source 8605 - Interest from Treasury Pool Deposi | 10,880.59 | 7,741.09 | 17,111.21 | 35,732.89 |
| Revenue Source 9358 - Road Maint. Services | 0.00 | 0.00 | 11,732.03 | 11,732.03 |
| Revenue Source 9360 - Contract Cities - Traffic Control | 0.00 | 1,678.93 | 0.00 | 1,678.93 |
| Revenue Source 9883 - Developer Fees | 136,000.00 | 214,000.00 | 59,500.00 | 409,500.00 |
| **Total** | **146,880.59** | **223,955.03** | **88,343.24** | **459,178.86** |
| Expenditures [2]: | | | | |
| C6140367 - Exc - Jando Drive 1690 | 0.00 | 535.01 | 0.00 | 535.01 |
| H0300167 - M&R Rainga Sta N of Fcd Boudy | 9,011.37 | 6,963.53 | 6,047.03 | 22,021.93 |
| T91034000 - Signal Plan Review - JAS | 127.00 | 0.00 | 0.00 | 127.00 |
| E0389504 - Ant Valley Mstr Pln Study-N | 0.00 | 765.86 | 1,011.81 | 1,777.67 |
| F3053580 - Slurry Squirrel Holes | 0.00 | 805.52 | 0.00 | 805.52 |
| H0300205 - Public Safe N of Fcd Boundry | 0.00 | 89.75 | 0.00 | 89.75 |
| R9LCF13722 - 13722 Curb/Walk Perm. Repairs 04/05 | 0.00 | 0.00 | 0.01 | 0.01 |
| **Total** | **9,138.37** | **9,159.67** | **7,058.85** | **25,356.89** |
| **Over/(Under) Recovered** | **137,742.22** | **214,795.36** | **81,284.39** | **433,821.97** |
| **Percentage of Expenditure Over/Underrecovered [3]** | **1507.30%** | **2345.01%** | **1151.52%** | **1710.86%** |

Footnotes:

(1) Revenue data was acquired by Fund 106 Antelope Valley Drainage Fee - V42 from the Revenue Financial Analysis Inquiry window in the Financial Accounting System.

(2) Expenditure data was acquired by Fund 106 Angelope Valey Drainage Fee - V42 from the Expenditure Financial Analysis Inquiry window in FAS.

(3) The Percentage of Expenditure Over/Underrecovered was computed by dividing the amount of Over/(Under) Recovered by the Total Expenditures.

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
PROPOSED ANTELOPE VALLEY COMPREHENSIVE PLAN DRAINAGE FEES

| | A | B=A*5280 | C | D=B*C | E=D*25% | F=D+E |
|---|---|---|---|---|---|---|
| Infrastructure Type | Miles or Each[1] | Linear Feet | Unit Cost [2] | Construction Cost | 25% Design Cost [3] | Total Cost |
| Open Channel | 32 | 168,960 | $ 1,106.49 | $ 186,952,550.40 | $ 46,738,137.60 | $ 233,690,688.00 |
| Closed Conduit | 22 | 116,160 | $ 656.45 | $ 76,253,232.00 | $ 19,063,308.00 | $ 95,316,540.00 |
| Detention/Retention Basin | 8 | | $ 22,201,861.78 | $ 177,614,894.24 | $ 44,403,723.56 | $ 222,018,617.80 |
| **Total** | | | | **$ 440,820,676.64** | **$ 110,205,169.16** | **$ 551,025,845.80** |

| | A | B | C | D = (A+B) * C |
|---|---|---|---|---|
| Type of Lot | Number of Undeveloped Units or Acres [4] | Number of Developed Units or Acres [5] | Single-Family Drainage Fee Equivalent | Total Number of Single-Family Drainage Fees |
| Single-Family | 54,087 | 7,107 | 1.00 | 61,194.00 |
| Multi-Family | 5,207 | 715 | 0.50 | 2,961.00 |
| Commercial/Industrial | 6,333 | 980 | 5.00 | 36,565.00 |
| **Total** | **65,626.97** | **8,802.00** | | **100,720.00** |

| | |
|---|---|
| **Single-Family Drainage Fee = Total Infrastructure Cost / Total Number of SFDF** | **$5,470.87** |
| **Multi-Family Drainage Fee = 1/2 Single-Family Drainage Fee** | **$2,735.44** |
| **Commercial/Industrial Development Drainage Fee = 5 * Single-Family Drainage Fee** | **$27,354.35** |

| | |
|---|---|
| **Proposed Single-Family Drainage Fee Per Lot** | **$5,471** |
| **Proposed Multi-Family Drainage Fee Per Lot** | **$2,736** |
| **Proposed Commercial/Industrial Development Drainage Fee Per Acre** | **$27,355** |

Footnotes:

(1) Public Works' Mapping and Property Management Division produced a digital version of the 1987 Antelope Valley Drainage Study map to determine the amount of open channel, closed conduit, and detention/retention basins required within the unincorporated portion of the Antelope Valley.

(2) See Attachments 3, 4, and 5 for calculation of unit costs of open channel, closed conduit, and detention/retention basin, respectively.

(3) This includes Preliminary Engineering, Project Management, and Inspection costs.

(4) See Attachment 6 for the total number of potential single-family lots, multi-family lots, and the commercial/industrial acreage available within the the unincorporated areas of the region.

(5) See Attachment 11 for the total number of developed single-family lots, multi-family lots, and the commercial/industrial acreage available within the the unincorporated areas of the region.

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE
## FISCAL YEAR 2005-06

| | Item Description | Quantity | Unit Cost | Unit of Measure | Extension | Total Cost |
|---|---|---|---|---|---|---|
| 1 | Construction Schedule [1] | 10 | $ 1,575.91 | Man Total Hour | $ 15,759.10 | |
| 2 | Implementation of Best Management Pratices [1] | 100% | $ 13,319.81 | Lump Sum | $ 13,319.81 | |
| 3 | Storm Water Pollution Prevention Plan [1] | 100% | $ 11,717.35 | Lump Sum | $ 11,717.35 | |
| 4 | Restoration of Existing Improvements [1] | 100% | $ 45,070.42 | Lump Sum | $ 45,070.42 | |
| 5 | Shoring of Open Excavations [2] | 25,520 | $ 35.38 | Cubic Yard | $ 902,897.60 | |
| 6 | Office Facilities [1] | 100% | $ 15,466.70 | Lump Sum | $ 15,466.70 | |
| 7 | Mobilization [1] | 100% | $ 167,499.22 | Lump Sum | $ 167,499.22 | |
| 8 | Structure Excavation [1 & 3] | 24,341 | $ 14.26 | Cubic Yard | $ 347,102.66 | |
| 9 | Asphalt Concrete Pavement [1 & 4] | 1,569 | $ 100.00 | Ton | $ 156,900.00 | |
| 10 | Crushed Aggregate Base [1 & 5] | 1,174 | $ 90.00 | Cubic Yard | $ 105,660.00 | |
| 11 | 12'-0" W x 8'-0" H Rectangular Channel, Sect 1 [6] | 5,280 | $ 572.59 | Linear Foot | $ 3,023,275.20 | |
| 12 | Chain Link Right of Way Fence, 5' High [7] | 10,560 | $ 13.40 | Linear Foot | $ 141,504.00 | |
| 13 | Chain Link Channel Wall Fence, 5' High [8] | 10,560 | $ 12.42 | Linear Foot | $ 131,155.20 | |
| 14 | 4' High walk Gate [1] | 2 | $ 425.53 | Each | $ 851.06 | |
| 15 | 12' Double Drive Gate [1] | 2 | $ 1,034.28 | Each | $ 2,068.56 | |
| | **Total cost estimate based on one mile stretch** | | | | | **$ 5,080,246.88** |
| | **Plus 15% contingency** | | | | | **$ 762,037.03** |
| | **Total cost estimate based on one mile stretch plus 15% contingency** | | | | **(a)** | **$ 5,842,283.91** |
| | **Estimated cost per linear foot = (a) / 5,280** | | | | | **$ 1,106.49** |

**Assumptions made in the calculation of 12' x 8' typical rectangular channel cost per linear foot:**

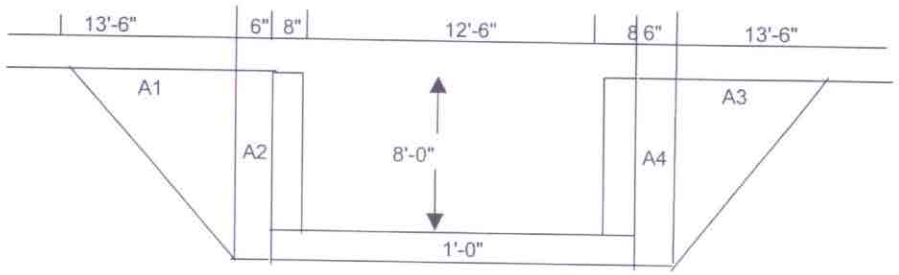
- General slope = 1%.
- 32 miles of open channel with 1% slope capacity
- Flow of water is 1,590 cubic foot per second.
- No utility interference.
- No ground water, health & safety issue included in this estimate

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE
## FISCAL YEAR 2005-06

**Footnotes:**

(1) See Schedule J for the unit costs of Construction Schedule, Implementation of BMPs, Stormwater Pollution Prevention plan, Restoration of Exist Improvements, Office Facilities, Mobilization, Structure Excavation, AC Pavement, Crushed Aggregate Base, Chain Link ROW Fence, Chain Link Channel Wall Fences, 4' High Walk Gate, and 12' Double Drive Gate.

(2) See figure below for the calculation of Total cubic yards for Shoring of Open Excavation:




Area of A1 = (13.5*9)*1/2 = 60.75 square feet
Area of A2 = (0.5*9)* = 4.50 square feet
Total area of A1 and A2 = 60.75 + 4.50 square feet = 65.25 square feet
Total area of A1, A2, A3, and A4 = 65.25 *2 square feet = 130.50 square feet

**Total cubic yard = (130.50 square feet * 5,280 feet) / 27 feet = 25,520.00**

Unit cost of the Shoring of Open Excavation was based on the average tem bid of the Little Dalton Debris Dam Seismic Modifications project:

| Item Description | Engineer's Estimate | Low Bidder Item Bid | Average Item Bid | Adjustment Factor | CCI Adjusted Item Bid |
|---|---|---|---|---|---|
| Structure Excavation | $ 10.00 | $ 10.00 | $ 31.87 | 1.11 | **$ 35.38** |

| | | |
|---|---|---|
| Bid Date | Feb-04 | (a) |
| ENR's CCI for Los Angeles for February 2004 | 7690.52 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | © |
| Adjustment Factor | 1.11 | (d) = c / b |

**DEPARTMENT OF PUBLIC WORKS**
**WATERSHED MANAGEMENT DIVISION**
**ANTELOPE VALLEY 12-FOOT WIDE BY 8-FOOT HIGH OPEN CHANNEL COST ESTIMATE**
**FISCAL YEAR 2005-06**

(3) Total cubic yards for Structure Excavation:

**Total cubic yard = (13.83 feet * 9 feet * 5,280 feet) / 27 = 24,340.80**

(4) Asphalt Concrete Pavement is assumed 4-inch thick and 12 feet wide.

Total cubic feet for 1 mile of asphalt concrete pavement = (0.33 foot * 12 feet * 5,280 feet) = 20,908.80

One cubic foot of aspahlt concrete pavement required 150 pounds of concrete

**Total tonnage of concrete required for 1 mile of asphalt concrete pavement = (20,908.80 cubic feet * 150 pounds) / 2,000 = 1,568.16**

(5) Crushed Aggregate Base (CAB) is assumed 6-inch thick and 12 feet wide

**Total cubic yard for 1 mile of CAB = (0.50 foot * 12 feet * 5,280 feet) / 27 = 1,173.33**

(6) See Schedule I for Rectangular Channel cost.

**(7) Total linear feet for chain link right of way fence = 5,280 *2 = 10,560**

**(8) Total linear feet for chain link channel fence wall = 5,280 *2 = 10,560**

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY CLOSED CONDUIT COST ESTIMATE
## FISCAL YEAR 2005-06

| | Item Description | Quantity | Unit Cost | Unit of Measure | Extension | Total Cost |
|---|---|---|---|---|---|---|
| 1 | Construction Schedule [1] | 5 | $ 1,575.91 | Man Total Hour | $ 7,879.55 | |
| 2 | Implementation of Best Management Pratices [1] | 100% | $ 13,319.81 | Lump Sum | $ 13,319.81 | |
| 3 | Storm Water Pollution Prevention Plan [1] | 100% | $ 11,717.35 | Lump Sum | $ 11,717.35 | |
| 4 | Restoration of Existing Improvements [1] | 100% | $ 45,070.42 | Lump Sum | $ 45,070.42 | |
| 5 | Shoring of Open Excavations [2] | 5,280 | $ 61.48 | Linear Foot | $ 324,614.40 | |
| 6 | Office Facilities [1] | 100% | $ 15,466.70 | Lump Sum | $ 15,466.70 | |
| 7 | Mobilization [1] | 100% | $ 167,499.22 | Lump Sum | $ 167,499.22 | |
| 8 | Asphalt Concrete Pavement [1 & 3] | 1,177 | $ 100.00 | Ton | $ 117,700.00 | |
| 9 | Crushed Aggregate Base [1 & 4] | 880 | $ 90.00 | Cubic Yard | $ 79,200.00 | |
| 10 | 72" RCP, 1350D [5] | 5,236 | $ 395.92 | Linear Foot | $ 2,073,037.12 | |
| 11 | Catch Basin System [6] | 100% | $ 111,168.88 | Lump Sum | $ 111,168.88 | |
| 12 | Manhole Per Standard Plan 321 [7] | 11 | $ 4,301.00 | Each | $ 47,311.00 | |
| | **Total cost estimate based on one mile stretch** | | | | | **$ 3,013,984.45** |
| | **Plus 15% contingency** | | | | | **$ 452,097.67** |
| | **Total cost estimate based on one mile stretch plus 15% contingency** | | | | **(a)** | **$ 3,466,082.12** |
| | **Estimated cost per linear foot = (a) / 5,280** | | | | | **$ 656.45** |

**Assumptions made in the calculation of one mile stretch cost of the storm drain are:**
- Slope used for Hydraulic Calculation ~ 1%
- Flow of water is 450 cubic feet per second based on 1% slope and project is 22 miles long
- No compacted fill, minor clearing & grubbing
- Permanent resurfacing to be 4" Aspahlt Concrete on 6" Crushed Aggregate Base
- No utility interference
- No Right of Way Cost, no Right of Way fences
- No ground water encountered; No contaminate soil encountered

**Footnotes:**

(1) See Schedule J for the unit costs of Construction Scheule, Implementation of BMPs, Stormwater Pollution Prevention plan, Restoration of Existing Improvements, Office Facilities, Mobilization, AC Pavement, and Crushed Aggregate Base.

(2) See Schedule H for the unit cost of shoring per linear foot.

(3) Asphalt concrete pavement is assumed 4-inch thick and 9 feet wide.
Total cubic feet for 1 mile of asphalt concrete pavement = (0.33 foot * 9 feet * 5,280 feet) = 15,681.60
One cubic foot of aspahlt concrete pavement required 150 pounds of concrete
**Total tonnage of concrete required for 1 mile of asphalt concrete pavement = (15,681.60 cubic feet * 150 pounds) / 2,000 = 1,176.12**

(4) Crushed Aggregate Base (CAB) is assumed 6-inch thick and 9 feet wide
**Total cubic yards for 1 mile of CAB = (0.50 foot * 9 feet * 5,280 feet) / 27 = 880.00**

**DEPARTMENT OF PUBLIC WORKS**
**WATERSHED MANAGEMENT DIVISION**
**ANTELOPE VALLEY CLOSED CONDUIT COST ESTIMATE**
**FISCAL YEAR 2005-06**

**Notes:**

(5) See Schedule G for the unit cost 72" RCP per linear foot.

(6) See Schedule J for the unit costs of Catch Basin Screeen, Manhole per Std Plan 322, Junction Structure, 18" RCP, 21" RCP and 42" RCP which are the components of the Catch Basin System.

| Item Description | Quantity | Unit Cost | Unit of Measure | Extension | Total Cost |
|---|---|---|---|---|---|
| Catch Basin Screen | 6 | $ 5,061.10 | Each | $30,366.60 | |
| Manhole per standard plan 322 | 2 | $ 7,039.10 | Each | 14,078.20 | |
| Junction Structure | 4 | $ 1,391.02 | Each | 5,564.08 | |
| 18" Reinforced Concrete Pipe | 100 | $ 109.19 | Linear Foot | 10,919.00 | |
| 21" Reinforced Concrete Pipe | 200 | $ 109.92 | Linear Foot | 21,984.00 | |
| 42" Reinforced Concrete Pipe | 150 | $ 188.38 | Linear Foot | 28,257.00 | |
| **Total** | | | | | **$111,168.88** |

(7) Unit cost of the Manhole per Std Plan 321 was based on the low bidder item bid of the Ninth Avenue Drain

| Item Description | Engineer's Estimate | Low Bidder Item Bid | Average Item Bid | Adjustment Factor | CCI Adjusted Item Bid |
|---|---|---|---|---|---|
| Manhole per Std Plan 321 | $ 3,738.00 | $ 3,910.00 | $ 3,686.00 | 1.10 | $ 4,301.00 |

| | | |
|---|---|---|
| Bid Date of Nine Avenue Drain | May-04 | (a) |
| ENR's CCI for Los Angeles for May 2004 | 7803.52 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | © |
| Adjustment Factor | 1.10 | (d) = c / b |

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE
## FISCAL YEAR 2005-06

**A Right of Way Acquisition Cost [1]**

| Item Description | Quantity | Unit of Measure | Unit Cost | Extension | Total Cost |
|---|---|---|---|---|---|
| Area required per basin | 50 | Acre | $ 55,000.00 | $ 2,750,000.00 | |
| | | | | | $ 2,750,000.00 |

**B Excavation Cost [2]**

| Item Description | Volume (cubic feet) | Volume (cubic yd) | Unit Cost per Cubic Yard | Extension | Total Cost |
|---|---|---|---|---|---|
| Excavation cost for basin with dimension =20' x 1,800' x 800 | 28,800,000 | 1,066,666.67 | $ 11.83 | $ 12,618,666.67 | |
| | | | | | $ 12,618,666.67 |

**C Infrastructure Costs [3]**

| Item Description | Quantity | Unit of Measure | Unit Cost | Extension | Total Cost |
|---|---|---|---|---|---|
| Access road/ramp [a] | 5,126 | Ton | $ 100.00 | $ 512,600.00 | |
| Perimeter Wall [b] | 36,000 | Square foot | $ 52.37 | $ 1,885,320.00 | |
| Associated piping, valves, pumping [c] | 1,000 | Linear foot | $ 656.45 | $ 656,450.00 | |
| Landscaping [d] | 1 | Lump Sum | $ 380,236.98 | $ 380,236.98 | |
| Irrigation [e] | 1 | Lump Sum | $ 241,740.07 | $ 241,740.07 | |
| | | | | | $ 3,676,347.05 |

**D Other Costs [4]**

| Item Description | Quantity | Unit of Measure | Unit Cost | Extension | Total Cost |
|---|---|---|---|---|---|
| Construction Schedule | 5 | Man Total Hours | $ 1,575.91 | $ 7,879.55 | |
| Implementation of Best Management Pratices | 100% | Lump Sum | 13,319.81 | $ 13,319.81 | |
| Storm Water Pollution Prevention Plan | 100% | Lump Sum | 11,717.35 | $ 11,717.35 | |
| Restoration of Existing Improvements | 100% | Lump Sum | 45,070.42 | $ 45,070.42 | |
| Office Facility | 100% | Lump Sum | 15,466.70 | $ 15,466.70 | |
| Mobilization | 100% | Lump Sum | 167,499.22 | $ 167,499.22 | |
| | | | | | $ 260,953.05 |

| | |
|---|---|
| **Total estimated cost for one detention/retention basin** | **$ 19,305,966.77** |
| **Plus 15% contingency** | **$ 2,895,895.02** |
| **Total estimated cost for one detention/retention basin plus 15% contingency** | **$ 22,201,861.78** |

**DEPARTMENT OF PUBLIC WORKS**
**WATERSHED MANAGEMENT DIVISION**
**ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE**
**FISCAL YEAR 2005-06**

**Footnotes:**

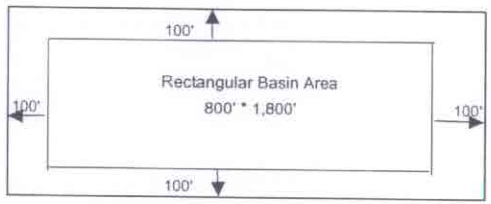
(1) A search in the Palmdale/Lancaster area for open land plots at least 40 acres in size produced a high end cost of $55,000/acre. Geologic conditions and drainage needs constrain the location of the right of way acquisitions.

(2) Excavation cost is for basin with depth = 20 feet, length = 1,800 feet, and width = 800 feet. Volume Removed = Basin Width*Basin Length*Basin Depth
The excavation unit cost is based on the average item bid for Vernon Channel - Fieldbrook Debris Basin adjusted with Engineering News Record's (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2006. Below shown the calculation of excavation unit cost:

| | | |
|---|---|---|
| Bid date | May 2001 | (a) |
| ENR's CCI for Los Angeles for December 2001 [5] = | 7226.92 | (b) |
| ENR's CCI for Los Angeles for June 2006 = | 8546.72 | (d) |
| Engineer's Estimate for unclassified excavation cost per cubic yard = | $0.00 | |
| Low Bidder Item Bid for unclassifed excavation cost per cubic yard [6] = | $10.00 | (e) |
| Average Item Bid for unclassifed excavation cost per cubic yard = | $8.35 | |
| Adjustment Factor = | 1.18 | (f) = d / b |
| **CCI adjusted item bid for unclassifiec excavation cost per cubic yard =** | **$11.83** | (g) = e * f |

(3) The following assumptions are used in the calculation for various infrastructure costs:

(a) The access roads within the 2,000 feet by 1,000 feet basin are assumed to be 6-inch thick and 20 feet wide and the access ramp is assumed at 200 * 100 square feet. See Schedule J for the unit cost of the AC Pavement .




Total cubic feet for the access roads and ramp = (((2,000' * 20')+(2,000' *20' )+(960' * 20')+(960' * 20' )+(100' * 200'))*0.5')
Total cubic feet for the access roads and ramp = 69,200
Total cubic yard for the access roads and ramp = 2,563
**Total tonnage of asphalt concrete needed * = 5,126**
* one cubic yard required 2 tons of asphalt concrete

**DEPARTMENT OF PUBLIC WORKS**
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**FISCAL YEAR 2005-06**

**Footnotes:**

(b) The perimeter wall unit cost is based on the average item bid for 126th Street Et Al. adjusted with Engineering News Record's (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2006. Below shown the calculation of perimeter wall unit cost:

| | | |
|---|---|---|
| Bid date | April 2002 | (a) |
| ENR's CCI for Los Angeles for December 2002 [5] = | 7402.75 | (b) |
| ENR's CCI for Los Angeles for June 2006 = | 8546.72 | (d) |
| Engineer's Estimate for unclassifed perimeter wall per square foot = | $8.00 | |
| Low Bidder Item Bid for unclassifed perimeter wall per square foot = | $14.00 | |
| Average Item Bid for unclassifed perimeter wall per square foot [6] = | $45.36 | (e) |
| Adjustment Factor = | 1.15 | (f) = d / b |
| **Adjusted average item bid for unclassifiec excavation cost per cubic yard =** | **$52.37** | (g) = e * f |

The wall around the basin is assumed with height of 6 feet.
Total area for the perimeter wall (square feet) ((2,000' * 2' +1,000' * 2' ))*6'
**Total area for the perimeter wall (square feet) = 36,000**

(c) A basin with dimension of 1,000 by 2,000 feet will require 1,000 feet of pipe to bring water in and out of the basin. Unit cost @ $657.01 is the weighted average item bids of the following six projects adjusted with ENR's CCI for Los Angeles as of June 2006. See Schedule D for the calculation of unit cost.

Fairplex Drain
Ward Channel Invert & Connector Pipe Repairs
Altadena System Lincoln Debris Basin Enlargement
Beverly Pico Drain, Unit 2
Vernon Channel - Fieldbrook Debris Basin
Busby Drain & Cash Contract 7643

(d) Average item bid of $377,500 for Paseo Del Rio San Gabriel Coastal Basin Spreading Gorunds, Phase 2, Multiuse Improvement adjusted with ENR's CCI for Los Angeles for June 2006 is used due to the said project had similar size of the proposed basin. Below shown the calculation of the adjusted landscapin cost:

| | | |
|---|---|---|
| Bid Date | September 2005 | (a) |
| ENR's CCI for Los Angeles for September 2005 = | 8485.20 | (b) |
| ENR's CCI for Los Angeles for June 2006 = | 8546.72 | (d) |
| Engineer's Estimate for landscaping = | $257,780 | |
| Low Bidder Item Bid for landscaping = | $325,000 | |
| Average Item Bid for landscaping [6] = | $377,500 | (e) |
| Adjustment Factor = | 1.01 | (f) = d / b |
| **Adjusted average item bid for landscaping =** | **$380,236.98** | (g) = e * f |

**DEPARTMENT OF PUBLIC WORKS**
**WATERSHED MANAGEMENT DIVISION**
**ANTELOPE VALLEY DETENTION/RETENTION BASIN COST ESTIMATE**
**FISCAL YEAR 2005-06**

**Footnotes:**

(e) Average item bid of $240,000 for Paseo Del Rio San Gabriel Coastal Basin Spreading Gorunds, Phase 2, Multiuse Improvement adjusted with ENR's CCI for Los Angeles for June 2006 is used due to the said project had similar size of the proposed basin. Below shown the calculation of the adjusted irrigation cost:

| | | |
|---|---|---|
| Bid Date | September 2005 | (a) |
| ENR's CCI for Los Angeles for September 2005 = | 8485.20 | (b) |
| ENR's CCI for Los Angeles for June 2006 = | 8546.72 | (d) |
| Engineer's Estimate for irrigation = | $156,612 | |
| Low Bidder Item Bid for irrigation = | $225,000 | |
| Average Item Bid for irrigation [6] = | $240,000 | (e) |
| Adjustment Factor = | 1.01 | (f) = d / b |
| **Adjusted average item bid for irrigation =** | **$241,740.07** | (g) = e * f |

(4) See Schedule J for the unit costs of Construction Schedule, Implementation of BMPS, Stormwater Pollution Plan, Restoration of Existing Improvement, Office Facilities, and Mobilization.

(5) Used Engineering News Record (ENR) published Construction Cost Index (CCI) for Los Angeles to adjust the base price. ENR traditionally published the CCI in December on a year to year basis. Due to construction costs increased significantly in recent year, ENR began published CCI on a month to month basis since January 2004. CCI for December will be used for projects with bid date prior 2004.

(6) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage need for the associated future developments. As such, the greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid is used as the base price to determine the CCI adjusted unit cost.

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN
NUMBER OF POTENTIAL SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND
THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

SINGLE-FAMILY [1]

| | | (A) | (B) = A / 43,560 | (C) | (D) | (E) | (F) = A / E |
|---|---|---|---|---|---|---|---|
| NUMBER | ZONE | Sum_AREA ($ft^2$) | Sum_AREA (acre) | Min_Z_DESC | Permitted Uses | MIN | SA_MIN ($ft^2/ft^2$) |
| 33 | R-A-1 | 128610514 | 2952 | Residential agriculture | single family residences | 5000 | 25722 |
| 34 | R-A-10000 | 115489926 | 2651 | Residential agriculture | single family residences | 10000 | 11548 |
| 35 | R-A-12000 | 29384858 | 675 | Residential agriculture | single family residences | 12000 | 2448 |
| 36 | R-A-15000 | 6569008 | 151 | Residential agriculture | single family residences | 15000 | 437 |
| 37 | R-A-2 | 3332940 | 77 | Residential agriculture | single family residences | 5000 | 666 |
| 38 | R-A-2.5 | 5571686 | 128 | Residential agriculture | single family residences | 5000 | 1114 |
| 39 | R-A-20000 | 24048310 | 552 | Residential agriculture | single family residences | 20000 | 1202 |
| 40 | R-A-30000 | 9319160 | 214 | Residential agriculture | single family residences | 30000 | 310 |
| 41 | R-A-40000 | 12269279 | 282 | Residential agriculture | single family residences | 40000 | 306 |
| 42 | R-A-7000 | 3315092 | 76 | Residential agriculture | single family residences | 7000 | 473 |
| 43 | R-A-7500 | 55903000 | 1283 | Residential agriculture | single family residences | 7500 | 7453 |
| 44 | RPD-10000-13U | 706002 | 16 | Residential planned development | | 10000 | 70 |
| 45 | RPD-20000-3U | 300238 | 7 | Residential planned development | | 20000 | 15 |
| 46 | RPD-20000-7.5U | 223933 | 5 | Residential planned development | | 20000 | 11 |
| 55 | R-1-10000 | 2578608 | 59 | Single-family residence | | 10000 | 257 |
| 56 | R-1-12000 | 767665 | 18 | Single-family residence | | 12000 | 63 |
| 57 | R-1-15000 | 936394 | 21 | Single-family residence | | 15000 | 62 |
| 58 | R-1-20000 | 7095404 | 163 | Single-family residence | | 20000 | 354 |
| 59 | R-1-7500 | 11820244 | 271 | Single-family residence | | 7500 | 1576 |

| | |
|---|---|
| **Single-Family Totals ($ft^2$)** | **418,242,260** |
| **Totals (acre)** | **9,602** |
| **Totals ($mi^2$)** | **15** |

**Number of Single-Family Residences** **54,087**

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN
NUMBER OF POTENTIAL SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND
THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

**MULTI-FAMILY (RESIDENTIAL) UNITS** [1]

| | | (A) | (B) = A / 43,560 | (C) | (D) | (E) | (F) = A / E |
|---|---|---|---|---|---|---|---|
| NUMBER | ZONE | Sum_AREA ($ft^2$) | Sum_AREA (acre) | Min_Z_DESC | Permitted Uses | MIN | SA_MIN ($ft^2/ft^2$) |
| 27 | R-3 | 3836498 | 88 | Limited multiple residence | Apartment Houses | 1450 | 2645 |
| 28 | R-3-20U | 3131608 | 72 | Limited multiple residence | Apartment Houses | 1450 | 2159 |
| 29 | R-3-P | 517589 | 12 | Limited multiple residence | Apartment Houses | 1450 | 356 |
| 60 | R-2 | 6318 | 0 | Two-family residence | Duplex | 2500 | 2 |
| 61 | R-2-15000 | 191273 | 4 | Two-family residence | Duplex | 15000 | 12 |
| 62 | R-2-20000 | 668478 | 15 | Two-family residence | Duplex | 20000 | 33 |

**Multi-Family Units**

| | |
|---|---|
| **Totals ($ft^2$)** | **8,351,763** |
| **Totals (acre)** | **192** |
| **Totals ($mi^2$)** | **0.30** |

**Number of Multi-Family Residences** **5,207**

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN
NUMBER OF POTENTIAL SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND
THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

COMMERCIAL/INDUSTRIAL [1]

| | | (A) | (B) = A / 43,560 | (C) | (D) | (E) | (F) = A / E |
|---|---|---|---|---|---|---|---|
| NUMBER | ZONE | Sum_AREA ($ft^2$) | Sum_AREA (acre) | Min_Z_DESC | Permitted Uses | MIN | SA_MIN ($ft^2/ft^2$) |
| 2 | C-H | 466698 | 11 | Commercial highway | | 1 | 466698 |
| 3 | CPD | 473136 | 11 | Commercial planned development | | 5000 | 94 |
| 4 | C-R | 14010178 | 322 | Commercial recreation | | 217800 | 64 |
| 13 | M-2 | 29251291 | 672 | Heavy manufacturing | | 1 | 29251291 |
| 14 | M-2-DP | 722392 | 17 | Heavy manufacturing | | 1 | 722392 |
| 15 | M-2.5 | 73530145 | 1688 | Heavy manufacturing | | 1 | 73530145 |
| 25 | M-1 | 9778818 | 224 | Light manufacturing | | 1 | 9778818 |
| 26 | M-1-DP | 198206 | 5 | Light manufacturing | | 1 | 198206 |
| 30 | C-2 | 3364280 | 77 | Neighborhood commercial | | 1 | 3364280 |
| 31 | C-2-DP | 1376720 | 32 | Neighborhood commercial | | 1 | 1376720 |
| 51 | C-1 | 797112 | 18 | Restricted business | | 1 | 797112 |
| 52 | C-1-DP | 51011 | 1 | Restricted business | | 1 | 51011 |
| 53 | M-1.5 | 121101693 | 2780 | Restricted heavy manufacturing | | 1 | 121101693 |
| 63 | C-3 | 20099994 | 461 | Unlimited commercial | | 1 | 20099994 |
| 64 | C-3-DP | 244182 | 6 | Unlimited commercial | | 1 | 244182 |
| 65 | C-3-U/C | 398382 | 9 | Unlimited commercial | | 1 | 398382 |

| | |
|---|---|
| **Commercial/Industrial Totals ($ft^2$)** | **275,864,236** |
| **Totals (acre)** | **6,333** |
| **Totals ($miles^2$)** | **10** |

Footnote:

(1) Public Works' Mapping and Property Management Division produced a digital version of the 1987 Antelope Valley Drainage Study map, and used the Los Angeles County Department of Regional Planning's Zoning Ordinance Summary to develop the above tables depicting undeveloped unincorporated area and the planned zoning for single-family lots, multi-family lots, and commercial/industrial acreages.

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY 72-INCH REINFORCED CONCRETE PIPE ESTIMATE
FISCAL YEAR 2005-06

**Construction Cost Index (CCI) Adjusted Item Bid Calculation**

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (H) | (H) | (H) | (I) | (J) = I / H | (J) = Greatest of D or E or F * J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Construction Cost Index [2] | | | | | | |
| Project Name | Description | Trench Depth [1] | Length | Engineer's Estimate | Low Bidder Item Bid | Average Item Bid | Bid Date | Dec-01 | Dec-02 | Dec-03 | Jun-04 | Jun-06 | Adjustment Factor | Adjusted Item Bid [2] |
| Fairplex Drain | 72" RCP, 1450 D | 16.00 | 455.00 | $ 398.00 | $ 250.00 | $ 381.25 | Jun-04 | | | | 7843.85 | 8546.72 | 1.09 | $ 433.66 |
| Ward Channel Invert & Connector Pipe Repairs | 72" RCP, 0800 D | 10.50 | 16.00 | $ 525.00 | $ 965.00 | $ 2,045.00 | Apr-03 | | | 7531.77 | | 8546.72 | 1.13 | $ 2,320.58 |
| Altadena System Lincoln Debris Basin Enlargement | 72" RCP, 2000 D | 16.00 | 157.00 | $ 299.00 | $ 165.00 | $ 298.95 | Apr-02 | | 7402.75 | | | 8546.72 | 1.15 | $ 345.21 |
| Beverly Pico Drain, Unit 2 | 72" RCP, 0850 D | 8.00 | 1,614.00 | $ - | $ 224.97 | $ 288.10 | Jun-01 | 7226.92 | | | | 8546.72 | 1.18 | $ 340.71 |
| Vernon Channel - Fieldbrook Debris Basin | 72" RCP, 1550 D | 22.00 | 84.00 | $ - | $ 250.00 | $ 349.00 | May-01 | 7226.92 | | | | 8546.72 | 1.18 | $ 412.74 |
| Busby Drain & Cash Contract 7643 | 72" RCP, 1400 D | 20.00 | 726.00 | $ - | $ 295.00 | $ 347.08 | Jun-01 | 7226.92 | | | | 8546.72 | 1.18 | $ 410.46 |

**Weighted Average (CCI) Adjusted Item Bid Calculation**

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) | (G) = E*F | (H) = G / E |
|---|---|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth | Length | Unit of Measure | Trench Depth * Length | Adjusted Item Bid | Total Cost | Weighted Average Item Bid |
| Fairplex Drain | 72" RCP, 1450 D | 16.00 | 455.00 | Linear Foot | 7,280.00 | $ 433.66 | $ 3,157,073.17 | |
| Ward Channel Invert & Connector Pipe Repairs | 72" RCP, 0800 D | 10.50 | 16.00 | Linear Foot | 168.00 | $ 2,320.58 | $ 389,856.72 | |
| Altadena System Lincoln Debris Basin Enlargement | 72" RCP, 2000 D | 16.00 | 157.00 | Linear Foot | 2,512.00 | $ 345.21 | $ 867,155.97 | |
| Beverly Pico Drain, Unit 2 | 72" RCP, 0850 D | 8.00 | 1,614.00 | Linear Foot | 12,912.00 | $ 340.71 | $ 4,399,294.19 | |
| Vernon Channel - Fieldbrook Debris Basin | 72" RCP, 1550 D | 22.00 | 84.00 | Linear Foot | 1,848.00 | $ 412.74 | $ 762,734.91 | |
| Busby Drain & Cash Contract 7643 | 72" RCP, 1400 D | 20.00 | 726.00 | Linear Foot | 14,520.00 | $ 410.46 | $ 5,959,947.50 | |
| Total | | | | | 39,240.00 | | $ 15,536,062.45 | $ 395.92 |

**Assumptions**

(1) Trench depth determined by "D Load Table" per Los Angeles County Flood Control District "Structural Design Manual" DWG No. 2-D213.3

(2) Used Engineering News Record (ENR) published Construction Cost Index (CCI) for Los Angeles to adjust the base price. ENR traditionally published the CCI on a year to year basis. Due to construction costs significantly increased in recent year, ENR began published CCI on a month to month basis since January 2004. CCI for December will be used for project with bid date prior 2004.

(3) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage need for the associated future developments. As such, the greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid is used as the base price to determine 72" RCP cost

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY SHORING COST ESTIMATE
FISCAL YEAR 2005-06

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) = 2*E |
|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth [1] | Length | Unit of Measure | Trench Depth * Length | Trench Depth * Length * 2 |
| Fairplex Drain | 24" RCP, 2000 D | 11.00 | 511.00 | Linear Foot | 5,621.00 | 11,242.00 |
| Fairplex Drain | 18" RCP, 2000 D | 10.50 | 111.00 | Linear Foot | 1,165.50 | 2,331.00 |
| Fairplex Drain | 36" RCP, 2000 D | 13.00 | 579.00 | Linear Foot | 7,527.00 | 15,054.00 |
| Fairplex Drain | 42" RCP, 1700 D | 13.50 | 937.00 | Linear Foot | 12,649.50 | 25,299.00 |
| Fairplex Drain | 48" RCP, 1700 D | 14.00 | 509.00 | Linear Foot | 7,126.00 | 14,252.00 |
| Fairplex Drain | 54" RCP, 1600 D | 14.50 | 1,498.00 | Linear Foot | 21,721.00 | 43,442.00 |
| Fairplex Drain | 60" RCP, 1600 D | 15.00 | 10.00 | Linear Foot | 150.00 | 300.00 |
| Fairplex Drain | 66" RCP, 1500 D | 15.50 | 487.00 | Linear Foot | 7,548.50 | 15,097.00 |
| Fairplex Drain | 72" RCP, 1450 D | 16.00 | 455.00 | Linear Foot | 7,280.00 | 14,560.00 |
| Fairplex Drain | 30" RCP, 2000 D | 12.50 | 668.00 | Linear Foot | 8,350.00 | 16,700.00 |
| Fairplex Drain | 90" Rubber Gasketed RCP, 1400 D | 17.50 | 230.00 | Linear Foot | 4,025.00 | 8,050.00 |
| Fairplex Drain | 78" Rubber Gasketed RCP, 1450 D | 16.50 | 959.00 | Linear Foot | 15,823.50 | 31,647.00 |
| Fairplex Drain | 60" Rubber Gasketed RCP, 1600 D | 15.00 | 138.00 | Linear Foot | 2,070.00 | 4,140.00 |
| Total | | | | | 101,057.00 | 202,114.00 |

**Calculation of Average Shoring per Linear Foot for Fairplex Drain Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | | $222,000.00 |
| Low Bidder Item Bid | | $494,800.00 |
| Average Item Bid | (a) | $716,716.70 |
| Total Shoring Area | (b) | 202,114.00 |
| Average Shoring per Square Foot | (d) = a/b | $3.55 |
| Bid Date | | Jun-04 |
| Engineering News Record (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2004 | (e) | 7843.85 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.09 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $3.86 |

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) = 2*E |
|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth | Length | Unit of Measure | Trench Depth * Length | Trench Depth * Length * 2 |
| Ward Channel Invert & Connector Pipe Repairs | 72" RCP, 0800 D | 10.50 | 16.00 | Linear Foot | 168.00 | 336.00 |

**Calculation of Average Shoring per Linear Foot for Ward Channel Invert & Connector Pipe Repairs Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | | $1,620.00 |
| Low Bidder Item Bid | | $1,650.00 |
| Average Item Bid | (a) | $6,825.00 |
| Total Shoring Area | (b) | 336.00 |
| Average Shoring per Square Foot | (d) = a/b | $20.31 |
| Bid Date | | Apr-03 |
| ENR's CCI for Los Angeles for December 2003 [3] | (e) | 7531.77 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.13 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $23.05 |

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY SHORING COST ESTIMATE
FISCAL YEAR 2005-06

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) = 2*E |
|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth | Length | Unit of Measure | Trench Depth * Length | Trench Depth * Length * 2 |
| Altadena System Lincoln Debris Basin Enlargement | 72" RCP, 2000 D | 16.00 | 157.00 | Linear Foot | 2,512.00 | 5,024.00 |
| Altadena System Lincoln Debris Basin Enlargement | 36" RCP, 2000 D | 13.00 | 108.00 | Linear Foot | 1,404.00 | 2,808.00 |
| Altadena System Lincoln Debris Basin Enlargement | 24" RCP, 2000 D | 12.00 | 127.00 | Linear Foot | 1,524.00 | 3,048.00 |
| Total | | | | | 5,440.00 | 10,880.00 |

**Calculation of Average Shoring per Linear Foot for Altadena System Lincoln Debris Basin Enlargement Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | (a) | $9,000.00 |
| Low Bidder Item Bid | | $1,000.00 |
| Average Item Bid | | $4,475.10 |
| Total Shoring Area | (b) | 10,880.00 |
| Average Shoring per Square Foot | (d) = a/b | $0.83 |
| Bid Date | | Apr-02 |
| ENR's CCI for Los Angeles for December 2002 [3] | (e) | 7402.75 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.15 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $0.96 |

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) = 2*E |
|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth | Length | Unit of Measure | Trench Depth * Length | Trench Depth * Length * 2 |
| Beverly Pico Drain, Unit 2 | 18" RCP, 2000 D | 10.50 | 146.00 | Linear Foot | 1,533.00 | 3,066.00 |
| Beverly Pico Drain, Unit 2 | 54" RCP, 1100 D | 8.75 | 43.00 | Linear Foot | 376.25 | 752.50 |
| Beverly Pico Drain, Unit 2 | 72" RCP, 0850 D | 8.00 | 1,614.00 | Linear Foot | 12,912.00 | 25,824.00 |
| Total | | | | | 14,821.25 | 29,642.50 |

**Calculation of Average Shoring per Linear Foot for Beverly Pico Drain, Unit 2 Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | | $0.00 |
| Low Bidder Item Bid | | $39,997.35 |
| Average Item Bid | (a) | $65,344.48 |
| Total Shoring Area | (b) | 29,642.50 |
| Average Shoring per Square Foot | (d) = a/b | $2.20 |
| Bid Date | | Jun-01 |
| ENR's CCI for Los Angeles for December 2001 [3] | (e) | 7226.92 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.18 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $2.61 |

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| Project Name | (A) Description | (B) Trench Depth | (C) Length | (D) Unit of Measure | (E) = B*C Trench Depth * Length | (F) = 2*E Trench Depth * Length * 2 |
|---|---|---|---|---|---|---|
| Vernon Channel - Fieldbrook Debris Basin | 18" RCP, 2000 D | 10.50 | 40.00 | Linear Foot | 420.00 | 840.00 |
| Vernon Channel - Fieldbrook Debris Basin | 42" RCP, 1500 D | 8.50 | 44.00 | Linear Foot | 374.00 | 748.00 |
| Vernon Channel - Fieldbrook Debris Basin | 72" RCP, 1550 D | 22.00 | 84.00 | Linear Foot | 1,848.00 | 3,696.00 |
| Total | | | | | **2,642.00** | **5,284.00** |

**Calculation of Average Shoring per Linear Foot for Vernon Channel - Fieldbrook Debris Basin Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | | $0.00 |
| Low Bidder Item Bid | (a) | $14,800.00 |
| Average Item Bid | | $12,560.00 |
| Total Shoring Area | (b) | 5,284.00 |
| Average Shoring per Square Foot | (d) = a/b | $2.80 |
| Bid Date | | May-01 |
| ENR's CCI for Los Angeles for December 2001 [3] | (e) | 7226.92 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.18 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $3.31 |

| Project Name | (A) Description | (B) Trench Depth | (C) Length | (D) Unit of Measure | (E) = B*C Trench Depth * Length | (F) = 2*E Trench Depth * Length * 2 |
|---|---|---|---|---|---|---|
| Busby Drain and Cash Contract 7643 | 24" RCP, 2250 D and Less | 12.00 | 238.00 | Linear Foot | 2,856.00 | 5,712.00 |
| Busby Drain and Cash Contract 7643 | 18" RCP, 2250 D and Less | 11.50 | 1,204.00 | Linear Foot | 13,846.00 | 27,692.00 |
| Busby Drain and Cash Contract 7643 | 36" RCP, 2000 D | 13.00 | 211.00 | Linear Foot | 2,743.00 | 5,486.00 |
| Busby Drain and Cash Contract 7643 | 48" RCP, 1700 D | 14.00 | 85.00 | Linear Foot | 1,190.00 | 2,380.00 |
| Busby Drain and Cash Contract 7643 | 48" RCP, 1500 D | 13.00 | 784.00 | Linear Foot | 10,192.00 | 20,384.00 |
| Busby Drain and Cash Contract 7643 | 48" RCP, 1400 D | 17.00 | 991.00 | Linear Foot | 16,847.00 | 33,694.00 |
| Busby Drain and Cash Contract 7643 | 42" RCP, 1700 D | 13.50 | 486.00 | Linear Foot | 6,561.00 | 13,122.00 |
| Busby Drain and Cash Contract 7643 | 78" RCP, 1550 D | 22.50 | 495.00 | Linear Foot | 11,137.50 | 22,275.00 |
| Busby Drain and Cash Contract 7643 | 78" RCP, 1250 D | 18.50 | 1,064.00 | Linear Foot | 19,684.00 | 39,368.00 |
| Busby Drain and Cash Contract 7643 | 78" RCP, 0900 D | 10.50 | 495.00 | Linear Foot | 5,197.50 | 10,395.00 |
| Busby Drain and Cash Contract 7643 | 72" RCP, 1400 D | 20.00 | 726.00 | Linear Foot | 14,520.00 | 29,040.00 |
| Total | | | | | **104,774.00** | **209,548.00** |

**Calculation of Average Shoring per Linear Foot for Busby Drain and Cash Contract 7643 Project**

| | | |
|---|---|---|
| Shoring of Open Excavations [2] | | |
| Engineer's Estimate | | $0.00 |
| Low Bidder Item Bid | | $100,000.00 |
| Average Item Bid | (a) | $169,662.62 |
| Total Shoring Area | (b) | 209,548.00 |
| Average Shoring per Square Foot | (d) = a/b | $0.81 |
| Bid Date | | Jun-01 |
| ENR's CCI for Los Angeles for December 2001 [3] | (e) | 7226.92 |
| ENR's CCI for Los Angeles for June 2006 | (f) | 8546.72 |
| Adjustment Factor | (g) = f/e | 1.18 |
| CCI Adjusted Average Shoring per Linear Foot | (h) = d*g | $0.96 |

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| | (A) | (B) | (D) = A*B | (E) = D/A |
|---|---|---|---|---|
| Project Name | Total Trench Depth * Length * 2 | CCI Adjusted Average Shoring Cost per Linear Foot | Total CCI Adjusted Shoring Cost | CCI Adjusted Average Shoring Cost per Linear Foot |
| Fairplex Drain | 202,114.00 | $3.86 | $780,940.09 | |
| Ward Channel Invert & Connector Pipe Repairs | 336.00 | $23.05 | $7,744.71 | |
| Altadena System Lincoln Debris Basin Enlargement | 10,880.00 | $0.96 | $10,390.80 | |
| Beverly Pico Drain, Unit 2 | 29,642.50 | $2.61 | $77,277.87 | |
| Vernon Channel - Fieldbrook Debris Basin | 5,284.00 | $3.31 | $17,502.82 | |
| Busby Drain and Cash Contract 7643 | 209,548.00 | $0.96 | $200,646.87 | |
| **Total** | **457,804.50** | | **$1,094,503.16** | **$2.39** |

**Average Trench Depth Calculation**

| | (A) | (B) | (C) | (D) | (E) = B*C | (F) = E / C |
|---|---|---|---|---|---|---|
| Project Name | Description | Trench Depth | Length | Unit of Measure | Trench Depth * Length | Average Trench Depth |
| Fairplex Drain | 72" RCP, 1450 D | 16.00 | 455.00 | Linear Foot | 7,280.00 | |
| Ward Channel Invert & Connector Pipe Repairs | 72" RCP, 0800 D | 10.50 | 16.00 | Linear Foot | 168.00 | |
| Altadena System Lincoln Debris Basin Enlargement | 72" RCP, 2000 D | 16.00 | 157.00 | Linear Foot | 2,512.00 | |
| Beverly Pico Drain, Unit 2 | 72" RCP, 0850 D | 8.00 | 1,614.00 | Linear Foot | 12,912.00 | |
| Vernon Channel - Fieldbrook Debris Basin | 72" RCP, 1550 D | 22.00 | 84.00 | Linear Foot | 1,848.00 | |
| Busby Drain & Cash Contract 7643 | 72" RCP, 1400 D | 20.00 | 726.00 | Linear Foot | 14,520.00 | |
| **Total** | | | **3,052** | | **39,240.00** | **12.86** |

| | |
|---|---|
| Shoring Cost per Linear Foot = | CCI Adjusted Shoring Cost per Square Foot * Average Trench Depth * 2 |
| Shoring Cost per Linear Foot = | $2.39 * 12.86 LF * 2 |
| **Shoring Cost per Linear Foot =** | **$61.48** |

**Footnotes:**

(1) Trench depth determined by "D Load Table" per Los Angeles County Flood Control District "Structural Design Manual" DWG No. 2-D213.3.

(2) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage need for the associated future developments. As such, the greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid is used as the base price to determine shoring cost.

(3) Used Engineering News Record (ENR) published Construction Cost Index (CCI) for Los Angeles to adjust the base price. ENR traditionally published the CCI on a year to year basis. Due to construction costs increased significantly in recent year, ENR began published CCI on a month to month basis since January 2004. CCI for December will be used for project projects with bid date prior 2004.

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| Project Name | (A) Description | (B) Cubic Yard Per Linear Foot | (C) Quantity | (D) Unit of Measure | (E) = B*C Total Quantity of Concrete (Cubic Yard) | (F) Engineer's Estimate Per Linear Foot | (F) Low Bidder Item Bid Per Linear Foot | (F) Average Item Bid Per Linear Foot | (G) Adjustment Factor | (H) = ((C *Greatest of F) / E)* G Rectangular Channel Concrete Cost Per Cubic Yard (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| Buena Vista Channel | 08'-00" W * 09'-06" H RCB, SECT 07 | 0.92 | 35.00 | Linear Foot | 32.20 | $ 526.00 | $ 690.00 | $ 690.83 | 1.13 | $ 848.52 |
| Buena Vista Channel | 07'-03" W * 04'-06" H RCB, SECT 06 | 0.70 | 32.00 | Linear Foot | 22.40 | $ 358.00 | $ 470.00 | $ 552.17 | 1.13 | $ 891.36 |
| Buena Vista Channel | 09'-00" W * 10'-00" H DBL RCB, SECT 09 | 1.70 | 12.00 | Linear Foot | 20.40 | $ 1,000.00 | $ 1,100.00 | $ 1,399.50 | 1.13 | $ 930.26 |
| Buena Vista Channel (2) | 09'-00" W * 08'-00" H DBL RCB, SECT 08 | 2.15 | 935.00 | Linear Foot | 2,010.25 | $ 1,154.00 | $ 560.00 | $ 1,359.00 | 1.13 | $ 714.27 |

**Calculation of Adjustement Factor for Buena Vista Channel**

| | | |
|---|---|---|
| Bid Date | May-03 | (a) |
| Engineering News Record (ENR's) Construction Cost Index (CCI) for Los Angeles for June 2004 | 7531.77 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | (c) |
| Adjustment Factor | 1.13 | (d) = c/b |

| Project Name | (A) Description | (B) Cubic Yard Per Linear Foot | (C) Quantity | (D) Unit of Measure | (E) = B*C Total Quantity of Concrete (Cubic Yard) | (F) Engineer's Estimate Per Linear Foot | (F) Low Bidder Item Bid Per Linear Foot | (F) Average Item Bid Per Linear Foot | (G) Adjustment Factor | (H) = ((C *Greatest of F) / E)* G Rectangular Channel Concrete Cost Per Cubic Yard (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| Ninth Avenue Drain | 08'-00" W * 02'-00" H RCB, SECT 02 | 0.68 | 381.00 | Linear Foot | 259.08 | $ 418.00 | $ 301.69 | $ 430.67 | 1.10 | $696.67 |
| Ninth Avenue Drain | 06'-00" W * 03'-00" H RCB, SECT 01 | 0.56 | 20.00 | Linear Foot | 11.20 | $ 520.00 | $ 604.35 | $ 700.44 | 1.10 | $1,375.86 |

**Calculation of Adjustement Factor for Ninth Avenue Drain**

| | | |
|---|---|---|
| Bid Date | May-04 | (a) |
| ENR's CCI for Los Angeles for May 2004 | 7803.52 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | (c) |
| Adjustment Factor | 1.10 | (d) = c/b |

| Project Name | (A) Description | (B) Cubic Yard Per Linear Foot | (C) Quantity | (D) Unit of Measure | (E) = B*C Total Quantity of Concrete (Cubic Yard) | (F) Engineer's Estimate Per Linear Foot | (F) Low Bidder Item Bid Per Linear Foot | (F) Average Item Bid Per Linear Foot | (G) Adjustment Factor | (H) = ((C *Greatest of F) / E)* G Rectangular Channel Concrete Cost Per Cubic Yard (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| Project No. 64, Eastern Avenue Storm Drain | 07'-10" W * 05'-00" H RCB | 0.99 | 58.00 | Linear Foot | 57.42 | $ 332.00 | $ 600.00 | $ 906.63 | 1.03 | $ 943.26 |
| Project No. 64, Eastern Avenue Storm Drain | 08'-06" W * 05'-00" H RCB | 1.04 | 2,053.00 | Linear Foot | 2,135.12 | $ 350.00 | $ 500.00 | $ 585.63 | 1.03 | $ 580.00 |

**Calculation of Adjustement Factor for Project No. 64, Eastern Avenue Storm Drain**

| | | |
|---|---|---|
| Bid Date | Jun-05 | (a) |
| ENR's CCI for Los Angeles for June 2005 | 8299.28 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | (c) |
| Adjustment Factor | 1.03 | (d) = c/b |

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| | (A) | (B) | (C) | (D) | (E) = B*C | (F) | (F) | (F) | (G) | (H) = ((C *Greatest of F) / E)* G |
|---|---|---|---|---|---|---|---|---|---|---|
| Project Name | Description | Cubic Yard Per Linear Foot | Quantity | Unit of Measure | Total Quantity of Concrete (Cubic Yard) | Engineer's Estimate Per Linear Foot | Low Bidder Item Bid Per Linear Foot | Average Item Bid Per Linear Foot | Adjustment Factor [3] | Rectangular Channel Concrete Cost Per Cubic Yard [1] |
| Beverly Pico Drain, Unit 2 | 10'-00" W * 02'-06" H RCB, SECT 10 | 0.85 | 10.00 | Linear Foot | 8.50 | $ - | $ 1,000.00 | $ 868.59 | 1.18 | $ 1,388.24 |

**Calculation of Adjustement Factor for Beverly Pico Drain, Unit 2**

| | | |
|---|---|---|
| Bid Date | Jun-01 | (a) |
| ENR's CCI for Los Angeles for December 2001 | 7226.92 | (b) |
| ENR's CCI for Los Angeles for June 2006 | 8546.72 | (c) |
| Adjustment Factor | 1.18 | (d) = c/b |

**Calculation of Concrete Cost per Cubic Yard Weighted by Volume**

| Project Name | Description | Total Quantity of Concrete (Cubic Yard) | Concrete Cost Per Cubic Yard | Total Rectangular Channel Concrete Cost | Weighted By Volume Concrete Cost Per Cubic Yard |
|---|---|---|---|---|---|
| Buena Vista Channel | 08'-00" W * 09'-06" H RCB, SECT 07 | 32.20 | $848.52 | $27,322.33 | |
| Buena Vista Channel | 07'-03" W * 04'-06" H RCB, SECT 06 | 22.40 | 891.36 | 19,966.47 | |
| Buena Vista Channel | 09'-00" W * 10'-00" H DBL RCB, SECT 09 | 20.40 | 930.26 | 18,977.22 | |
| Buena Vista Channel | 09'-00" W * 08'-00" H DBL RCB, SECT 08 | 2,010.25 | 714.27 | 1,435,851.45 | |
| Ninth Avenue Drain | 08'-00" W * 02'-00" H RCB, SECT 02 | 259.08 | 696.67 | 180,493.80 | |
| Ninth Avenue Drain | 06'-00" W * 03'-00" H RCB, SECT 01 | 11.20 | 1,375.86 | 15,409.68 | |
| Project No. 64, Eastern Avenue Storm Drain | 07'-10" W * 05'-00" H RCB | 57.42 | 943.26 | 54,162.08 | |
| Project No. 64, Eastern Avenue Storm Drain | 08'-06" W * 05'-00" H RCB | 2,135.12 | 580.00 | 1,238,367.34 | |
| Beverly Pico Drain, Unit 2 | 10'-00" W * 02'-06" H RCB, SECT 10 | 8.50 | 1,388.24 | 11,800.00 | |
| **Total** | | **4,556.57** | | **$3,002,350.36** | **$658.91** |

**Per Design Division, one linear foot require 0.79 cubic yard of concrete**

| | |
|---|---|
| Concrete Cost per linear foot = | $658.91 * 0.79 |
| Concrete Cost per linear foot = | $520.54 |
| Assume 10% Increase | |
| Concrete Cost per linear foot with 10 % increment = | $520.54 * 1.1 |
| **Concrete Cost per linear foot with 10 % increment [4] =** | **$572.59** |

Footnotes:

(1) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage need for the associated future developments. As such, the greatest amount among the Engineer's Estimate, Low Bidder Item Bid, and Low Bidder Item Bid is used as the base price to determine rectangular channel concrete cost per cubic yard.

(2) The Average Item Bid for some reason was bid at half the typical costs. Thus, Design multiplied the cost by 2 to be within cost proximities.

(3) Used Engineering News Record (ENR) published Construction Cost Index (CCI) for Los Angeles to adjust the base price. ENR traditionally published the CCI on a year to year basis. Due to construction costs significantly increased in recent y ENR began published CCI on a month to month basis since January 2004. CCI for December will be used for project with bid date prior 2004.

(4) Past bid history projects had different amounts of concrete amounts per linear feet. Such different amounts mean there are different volumes of concrete in cubic yard per linear foot. Hence, a weighted average volume is required to determine average cost per cubic yard for the past bid history projects, and then be converted into an average cost per linear foot.

DEPARTMENT OF PUBLIC WORKS
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ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE

| Cost Estimate Type | Name of Project (A) | Bid Date (B) | Average Item Bid (C) [1] | Engineer's Estimate (D) [1] | Low Bidder Item Bid (E) [1] | Quantity (F) | CCI @ Bid Date (G) [2] | CCI @ June 2006 (H) | Adjustment Factor (I) = H / G | Greatest of Item Cost C, D or E Adjusted With Adjustment Factor (J) = C or D or E * I | Amount (K) = F * J | Weighted Average Unit Cost (L) = K / F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction Schedule | Buena Vista Channel | May-03 | $ 816.67 | $ 900.00 | $ 2,300.00 | 10 | 7531.77 | 8546.72 | 1.13 | $ 2,609.94 | $ 26,099.38 | |
| | Ninth Avenue Drain | May-04 | $ 698.03 | $ 925.00 | $ 498.33 | 9 | 7803.52 | 8546.72 | 1.10 | $ 1,013.10 | $ 9,117.87 | |
| | Project No. 64, Eastern Avenue Storm Drain | Jun-05 | $ 890.00 | $ 500.00 | $ 500.00 | 8 | 8299.28 | 8546.72 | 1.03 | $ 916.54 | $ 7,332.28 | |
| **Total** | | | | | | **27** | | | | | **$ 42,549.53** | **$ 1,575.91** |
| Implementation of BMPs | Buena Vista Channel | May-03 | $ 15,150.00 | $ 10,000.00 | $ 30,900.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 35,063.96 | $ 35,063.96 | |
| | Gratian Street Drain | Dec-02 | $ 1,641.67 | $ 3,000.00 | $ 500.00 | 1 | 7402.75 | 8546.72 | 1.15 | $ 3,463.60 | $ 3,463.60 | |
| | Puddingstone Channel Invert Access Ramp | Apr-03 | $ 3,639.29 | $ 4,000.00 | $ 8,050.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 9,134.78 | $ 9,134.78 | |
| | Liberty Canyon Channel Access Ramp @ PD 572 | Jun-04 | $ 4,172.77 | $ 2,000.00 | $ 1,000.00 | 1 | 7843.85 | 8546.72 | 1.09 | $ 4,546.68 | $ 4,546.68 | |
| | Ninth Avenue Drain | May-04 | $ 14,323.80 | $ 13,000.00 | $ 15,238.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 16,689.25 | $ 16,689.25 | |
| | Project No. 64, Eastern Avenue Storm Drain | Jun-05 | $ 18,250.00 | $ 10,000.00 | $ 3,000.00 | 1 | 8299.28 | 8546.72 | 1.03 | $ 18,794.12 | $ 18,794.12 | |
| | Beverly Pico Drain, Unit 2 | Jun-01 | $ 4,689.82 | $ - | $ 1,000.00 | 1 | 7226.92 | 8546.72 | 1.18 | $ 5,546.29 | $ 5,546.29 | |
| **Total** | | | | | | **7** | | | | | **$ 93,238.68** | **$ 13,319.81** |
| Stormwater Pollution Prevention Plan | Buena Vista Channel | May-03 | $ 5,000.00 | $ 5,000.00 | $ 11,000.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 12,482.31 | $ 12,482.31 | |
| | Ninth Avenue Drain | May-04 | $ 8,402.50 | $ 10,000.00 | $ 4,025.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 10,952.39 | $ 10,952.39 | |
| **Total** | | | | | | **2** | | | | | **$ 23,434.70** | **$ 11,717.35** |
| Restoration of Existing Improvements | Buena Vista Channel | May-03 | $ 22,316.67 | $ 30,000.00 | $ 55,900.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 63,432.85 | $ 63,432.85 | |
| | Gratian Street Drain | Dec-02 | $ 3,127.33 | $ 1,880.00 | $ 4,100.00 | 1 | 7402.75 | 8546.72 | 1.15 | $ 4,733.59 | $ 4,733.59 | |
| | Puddingstone Channel Invert Access Ramp | Apr-03 | $ 4,114.64 | $ 4,000.00 | $ 10,005.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 11,353.23 | $ 11,353.23 | |
| | Ninth Avenue Drain | May-04 | $ 49,897.90 | $ 92,000.00 | $ 38,479.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 100,761.99 | $100,761.99 | |
| **Total** | | | | | | **4** | | | | | **$180,281.66** | **$ 45,070.42** |

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE

| Cost Estimate Type | Name of Project (A) | Bid Date (B) | Average Item Bid (C) [1] | Engineer's Estimate (D) [1] | Low Bidder Item Bid (E) [1] | Quantity (F) | CCI @ Bid Date (G) [2] | CCI @ June 2006 (H) | Adjustment Factor (I) = H / G | Greatest of Item Cost C, D or E Adjusted With Adjustment Factor (J) = C or D or E * I | Amount (K) = F * J | Weighted Average Unit Cost (L) = K / F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Office Facilities | Buena Vista Channel | May-03 | $ 18,650.00 | $ 13,600.00 | $ 25,900.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 29,390.18 | $ 29,390.18 | |
| | Gratian Street Drain | Dec-02 | $ 3,402.33 | $ 2,550.00 | $ 3,250.00 | 1 | 7402.75 | 8546.72 | 1.15 | $ 3,928.10 | $ 3,928.10 | |
| | Ninth Avenue Drain | May-04 | $ 13,429.90 | $ 12,750.00 | $ 11,299.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 14,708.95 | $ 14,708.95 | |
| | Project No. 64, Eastern Avenue Storm Drain | Jun-05 | $ 20,562.50 | $ 5,000.00 | $ 5,000.00 | 1 | 8299.28 | 8546.72 | 1.03 | $ 21,175.56 | $ 21,175.56 | |
| | Beverly Pico Drain, Unit 2 | Jun-01 | $ 6,875.14 | $ - | $ 3,000.00 | 1 | 7226.92 | 8546.72 | 1.18 | $ 8,130.70 | $ 8,130.70 | |
| **Total** | | | | | | **5** | | | | | **$ 77,333.49** | **$ 15,466.70** |
| Mobilization | Channel | May-03 | $ 340,535.70 | $ 300,000.00 | $ 413,214.20 | 1 | 7531.77 | 8546.72 | 1.13 | $ 468,897.23 | $468,897.23 | |
| | Gratian Street Drain | Dec-02 | $ 7,961.67 | $ 4,700.00 | $ 8,000.00 | 1 | 7402.75 | 8546.72 | 1.15 | $ 9,236.26 | $ 9,236.26 | |
| | Ninth Avenue Drain | May-04 | $ 188,197.30 | $ 200,000.00 | $ 147,973.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 219,047.81 | $219,047.81 | |
| | Project No. 64, Eastern Avenue Storm Drain | Jun-05 | $ 68,126.25 | $ 30,000.00 | $ 5,000.00 | 2 | 8299.28 | 8546.72 | 1.03 | $ 70,157.41 | $140,314.82 | |
| **Total** | | | | | | **5** | | | | | **$837,496.12** | **$ 167,499.22** |
| Structural Excavation | Vernon Channel-Fieldbrook Debris Basin | May-01 | $ 8.35 | $ - | $ 10.00 | 15,100 | 7226.92 | 8546.72 | 1.18 | $ 11.83 | $178,576.04 | |
| | 126TH Street El Al. | Apr-02 | $ 30.71 | $ 50.00 | $ 23.00 | 672 | 7402.75 | 8546.72 | 1.15 | $ 57.73 | $ 38,792.31 | |
| | Paseo Del Rio San Gabriel Coastal Basin Spreading Grounds, Phase 2, Multiuse Improvements | Sep-05 | $ 512.50 | $ 150.00 | $ 100.00 | 15 | 8485.2 | 8546.72 | 1.01 | $ 516.22 | $ 7,743.24 | |
| **Total** | | | | | | **15,787** | | | | | **$225,111.58** | **$ 14.26** |
| AC Pavement Crushed Aggregate | Design Division consulted with its Highway Unit for today's unit costs for AC pavement and crushed aggregate. | | | | | | | | | | | |
| Chain Link ROW Wall Fences | Buena Vista Channel Puddingstone | May-03 | $ 8.58 | $ 10.85 | $ 8.00 | 5,074 | 7531.77 | 8546.72 | 1.13 | $ 12.31 | $ 62,471.60 | |
| | Channel Invert Access Ramp | Apr-03 | $ 23.15 | $ 26.00 | $ 8.53 | 89 | 7531.77 | 8546.72 | 1.13 | $ 29.50 | $ 2,625.83 | |
| | Ninth Avenue Drain | May-04 | $ 21.51 | $ 20.00 | $ 16.10 | 400 | 7803.52 | 8546.72 | 1.10 | $ 23.56 | $ 9,423.44 | |
| **Total** | | | | | | **5,563** | | | | | **$ 74,520.86** | **$ 13.40** |

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE

| Cost Estimate Type | Name of Project (A) | Bid Date (B) | Average Item Bid (C) [1] | Engineer's Estimate (D) [1] | Low Bidder Item Bid (E) [1] | Quantity (F) | CCI @ Bid Date (G) [2] | CCI @ June 2006 (H) | Adjustment Factor (I) = H / G | Greatest of Item Cost C, D or E Adjusted With Adjustment Factor (J) = C or D or E * I | Amount (K) = F * J | Weighted Average Unit Cost (L) = K / F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chain Link Channel Wall Fences | Buena Vista Channel | May-03 | $ 7.58 | $ 9.94 | $ 6.00 | 3,893 | 7531.77 | 8546.72 | 1.13 | $ 11.28 | $ 43,910.99 | |
| | Ninth Avenue Drain | May-04 | $ 21.51 | $ 20.00 | $ 16.10 | 400 | 7803.52 | 8546.72 | 1.10 | $ 23.56 | $ 9,423.44 | |
| **Total** | | | | | | **4,293** | | | | | **$ 53,334.43** | **$ 12.42** |
| 4' High Walk Gate | Buena Vista Channel | May-03 | $ 323.00 | $ 375.00 | $ 330.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 425.53 | $ 425.53 | |
| **Total** | | | | | | **1** | | | | | **$ 425.53** | **$ 425.53** |
| 24' Double Drive Gate | Buena Vista Channel | May-03 | $ 800.00 | $ 1,500.00 | $ 1,050.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 1,702.13 | $ 1,702.13 | |
| **Total** | | | | | | **1** | | | | | **$ 1,702.13** | **$ 1,702.13** |
| 16' Double Drive Gate | Buena Vista Channel Puddingstone | May-03 | $ 774.83 | $ 1,200.00 | $ 660.00 | 2 | 7531.77 | 8546.72 | 1.13 | $ 1,361.71 | $ 2,723.41 | |
| 16' Double Drive Gate | Channel Invert Access Ramp | Apr-03 | $ 1,747.21 | $ 1,200.00 | $ 811.00 | 1 | 7531.77 | 8546.72 | 1.13 | $ 1,982.66 | $ 1,982.66 | |
| 16' Double Drive Gate | Ninth Avenue Drain | May-04 | $ 2,024.30 | $ 1,250.00 | $ 863.00 | 1 | 7803.52 | 8546.72 | 1.10 | $ 2,217.09 | $ 2,217.09 | |
| **Total** | | | | | | **4** | | | | | **$ 6,923.16** | **$ 1,730.79** |
| 15' Double Drive Gate | Liberty Canyon Channel Access Ramp @ PD 572 | Jun-04 | $ 839.67 | $ 1,200.00 | $ 500.00 | 1 | 7843.85 | 8546.72 | 1.09 | $ 1,307.53 | $ 1,307.53 | |
| **Total** | | | | | | **1** | | | | | **$ 1,307.53** | **$ 1,307.53** |
| Catch Basin Per Std Plan 300, W=07 | Ninth Avenue Drain | May-04 | $ 3,613.90 | $ 3,362.00 | $ 3,879.00 | 8 | 7803.52 | 8546.72 | 1.10 | $ 4,248.43 | $ 33,987.46 | |
| Catch Basin Per Std Plan 307, W=07 | Ninth Avenue Drain | May-04 | $ 4,018.80 | $ 7,589.00 | $ 4,488.00 | 2 | 7803.52 | 8546.72 | 1.10 | $ 8,311.77 | $ 16,623.54 | |
| **Total** | | | | | | **10** | | | | | **$ 50,611.00** | **$ 5,061.10** |
| Manhole Per Std 322 | Ninth Avenue Drain | May-04 | $ 4,780.00 | $ 6,427.00 | $ 4,600.00 | 8 | 7803.52 | 8546.72 | 1.10 | $ 7,039.10 | $ 56,312.81 | |
| **Total** | | | | | | **8** | | | | | **$ 56,312.81** | **$ 7,039.10** |
| Junction Structure Per Std Plan 331 | Ninth Avenue Drain | May-04 | $ 1,255.00 | $ 1,200.00 | $ 1,150.00 | 50 | 7803.52 | 8546.72 | 1.10 | $ 1,374.53 | $ 68,726.25 | |
| Junction Structure Per Std Plan 333 | Ninth Avenue Drain | May-04 | $ 1,521.00 | $ 1,375.00 | $ 1,380.00 | 3 | 7803.52 | 8546.72 | 1.10 | $ 1,665.86 | $ 4,997.58 | |
| **Total** | | | | | | **53** | | | | | **$ 73,723.83** | **$ 1,391.02** |
| 18" RCP (2000 D) | Ninth Avenue Drain | May-04 | $ 97.61 | $ 75.00 | $ 57.10 | 1,904 | 7803.52 | 8546.72 | 1.10 | $ 106.91 | $203,549.57 | |
| | Beverly Pico Drain, Unit 2 | Jun-01 | $ 117.56 | $ - | $ 96.97 | 146 | 7226.92 | 8546.72 | 1.18 | $ 139.03 | $ 20,298.25 | |
| **Total** | | | | | | **2,050** | | | | | **$223,847.82** | **$ 109.19** |
| 24" RCP (2000 D) | Gratian Street Drain | Dec-02 | $ 177.67 | $ 145.00 | $ 94.00 | 138 | 7402.75 | 8546.72 | 1.15 | $ 205.13 | $ 28,307.37 | |
| | Ninth Avenue Drain | May-04 | $ 107.32 | $ 95.00 | $ 69.16 | 192 | 7803.52 | 8546.72 | 1.10 | $ 117.54 | $ 22,567.88 | |
| **Total** | | | | | | **330** | | | | | **$ 50,875.26** | **$ 154.17** |

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE

| Cost Estimate Type | Name of Project (A) | Bid Date (B) | Average Item Bid (C) [1] | Engineer's Estimate (D) [1] | Low Bidder Item Bid (E) [1] | Quantity (F) | CCI @ Bid Date (G) [2] | CCI @ June 2006 (H) | Adjustment Factor (I) = H / G | Greatest of Item Cost C, D or E Adjusted With Adjustment Factor (J) = C or D or E * I | Amount (K) = F * J | Weighted Average Unit Cost (L) = K / F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30" RCP (2000 D) | Buena Vista Channel Ninth Avenue Drain | May-03 | $ 257.00 | $ 131.00 | $ 310.00 | 8 | 7531.77 | 8546.72 | 1.13 | $ 351.77 | $ 2,814.19 | |
| | | May-04 | $ 127.38 | $ 130.00 | $ 82.83 | 643 | 7803.52 | 8546.72 | 1.10 | $ 142.38 | $ 91,551.03 | |
| **Total** | | | | | | **651** | | | | | **$ 94,365.23** | **$ 144.95** |
| 42" RCP (2000 D) | Ninth Avenue Drain | May-04 | $ 168.18 | $ 172.00 | $ 126.83 | 202 | 7803.52 | 8546.72 | 1.10 | $ 188.38 | $ 38,052.99 | |
| **Total** | | | | | | **202** | | | | | **$ 38,052.99** | **$ 188.38** |

| Cost Estimate Type | Name of Project (A) | Width (Feet) (B) | Weighted Average Unit Cost (C) | Weighted Average Cost Per Foot (D) = C / B | Weighted Average Cost For 12' (E) = D*12 |
|---|---|---|---|---|---|
| 15' Double Drive Gate | Liberty Canyon Channel Access Ramp @ PD 572 | 15 | $ 1,307.53 | $ 87.17 | |
| 16' Double Drive Gate | Buena Vista Channel, Puddingstone Channel Invert Access Ramp, Ninth Avenue Drain | 16 | $ 1,730.79 | $ 108.17 | |
| 24' Double Drive Gate | Buena Vista Channel | 24 | $ 1,702.13 | $ 70.92 | |
| **Average for 12' Double Drive Gate [4]** | | **55** | **$ 4,740.45** | **$ 86.19** | **$ 1,034.28** |

| Cost Estimate Type | Name of Project (A) | Diameter (Inch) (B) | Weighted Average Unit Cost (C) | Weighted Average Unit Cost Per Inch (D) = C / B | Weighted Average Item Bid For 21" (E) = D*21 |
|---|---|---|---|---|---|
| 18" RCP (2000 D) | Ninth Avenue Drain, Beverly Pico Drain Unit 2 | 18 | $ 109.19 | $ 6.07 | |
| 24" RCP (2000 D) | Gratian Street Drain, Ninth Avenue Drain | 24 | $ 154.17 | $ 6.42 | |
| 30" RCP (2000 D) | Buena Vista Channel, Ninth Avenue Drain | 30 | $ 144.95 | $ 4.83 | |
| 42" RCP (2000 D) | Ninth Avenue Drain | 42 | $ 188.38 | $ 4.49 | |
| **Average for 21" RCP (2000 D) [5]** | | **114** | **$ 596.70** | **$ 5.23** | **$ 109.92** |

DEPARTMENT OF PUBLIC WORKS
WATERSHED MANAGEMENT DIVISION
ANTELOPE VALLEY COMPREHENSIVE PLAN UNIT COST ESTIMATE

| Cost Estimate Type | Name of Project (A) | Bid Date (B) | Average Item Bid (C) [1] | Engineer's Estimate (D) [1] | Low Bidder Item Bid (E) [1] | Quantity (F) | CCI @ Bid Date (G) [2] | CCI @ June 2006 (H) | Adjustment Factor (I) = H / G | Greatest of Item Cost C, D or E Adjusted With Adjustment Factor (J) = C or D or E * I | Amount (K) = F * J | Weighted Average Unit Cost (L) = K / F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Footnotes:

(1) Antelope Valley is a region in which various assumptions are required at this stage, including the location, size, and costs of various drainage need for the associated future developments. As such, the greatest amount among the Average Item Bid, Engineer's Estimate, and Low Bidder Item Bid is used as the base price to determine the CCI adjusted weighted average unit cost.

(2) Used Engineering News Record (ENR) published Construction Cost Index (CCI) for Los Angeles to adjust the base price. ENR traditionally published the CCI on a year to year basis. Due to construction costs significantly increased in recent year, ENR began published CCI on a month to month basis since January 2004. CCI for December will be used for project with bid date prior 2004.

(3) Uses the weighted average method to determine the CCI adjusted weighted average unit cost.

(4) There was no bid history found for 12' Double Drive Gate, hence, it was determined by using the average of the Weighted Average Cost per foot of 24' Double Drive Gate, 16' Double Drive Gate and 15' Double Drive Gate multiplied by 12.

(5) There was no bid history found for 21" RCP (2000 D), hence, it was determined by using the average of the Weighted Average Cost per inch of 18" RCP (2000 D), 24" RCP (2000 D), 30" RCP (2000 D) and 42" RCP (2000 D) multiplied by 21.

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY COMPREHENSIVE PLAN
## NUMBER OF DEVELOPED SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

**SINGLE-FAMILY** [1]

| No. of Unit | MAIL_NUMBER | MAIL_STREE | IMPROVED VALUE [2] | MAIL_CITY_ | MAIL_ZIP_C | AREA_SQFT | ZONE | Z_NAME | Z_DESC |
|---|---|---|---|---|---|---|---|---|---|
| 7106 | 42226 | MARBELLA ST | $198,900 | QUARTZ HILL CA | 935360000 | 8049.32 | R-1-7500 | Zone R-1 | Single-family residence |
| 7107 | 42216 | MARBELLA ST | $189,006 | QUARTZ HILL CA | 935360000 | 8049.40 | R-1-7500 | Zone R-1 | Single-family residence |
| | | | | | Area ($ft^2$) | 227,525,155.67 | | | |
| | | | | | Area (ac) | 5,223.26 | | | |
| | | | | | No. of Units | 7,107 | | | |

**MULTI-FAMILY (RESIDENTIAL)** [1]

| No. of Unit | MAIL_NUMBER | MAIL_STREE | IMPROVED VALUE [2] | MAIL_CITY_ | MAIL_ZIP_C | AREA_SQFT | ZONE | Z_NAME | Z_DESC |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 529 | DE LA VINA ST | $31,171 | SANTA BARBARA CA | 931010000 | 40944.56 | R-3 | Zone R-3-()U | Limited multiple residence |
| 2 | 47821 | 90TH ST W | $74,622 | LANCASTER CA | 935360000 | 47692.69 | R-3 | Zone R-3-()U | Limited multiple residence |
| 3 | 47809 | 90TH ST W | $84,456 | LANCASTER CA | 935360000 | 47729.45 | R-3 | Zone R-3-()U | Limited multiple residence |
| 4 | 2213 | KNOXVILLE ST | $39,694 | BROKEN ARROW OK | 740120000 | 12017.41 | R-3 | Zone R-3-()U | Limited multiple residence |
| 5 | 927 | AVENUE Q9 | $41,549 | PALMDALE CA | 935500000 | 11939.07 | R-3 | Zone R-3-()U | Limited multiple residence |
| 6 | 927 | AVENUE Q9 | $41,549 | PALMDALE CA | 935500000 | 12217.59 | R-3 | Zone R-3-()U | Limited multiple residence |
| 7 | 39027 | 10TH ST W | $51,780 | PALMDALE CA | 935510000 | 11834.34 | R-3 | Zone R-3-()U | Limited multiple residence |
| 8 | 36547 | ROZALEE RD | $77,335 | PALMDALE CA | 935500000 | 12058.58 | R-3 | Zone R-3-()U | Limited multiple residence |
| 9 | 609 | DESERT WEST DR | $142,100 | RANCHO MIRAGE CA | 922700000 | 12018.41 | R-3 | Zone R-3-()U | Limited multiple residence |
| 10 | 17822 | ELIZABETH LAKE RD | $95,239 | LAKE HUGHES CA | 935320000 | 4813.17 | R-3 | Zone R-3-()U | Limited multiple residence |
| 11 | 43792 | TRAIL B | $68,682 | LAKE HUGHES CA | 935320000 | 3757.74 | R-3 | Zone R-3-()U | Limited multiple residence |
| 12 | | PO BOX 213 | $14,405 | LAKE HUGHES CA | 935320000 | 2564.06 | R-3 | Zone R-3-()U | Limited multiple residence |
| 13 | 17854 | ELIZABETH LAKE RD | $102,000 | LAKE HUGHES CA | 935320000 | 2883.09 | R-3 | Zone R-3-()U | Limited multiple residence |
| 14 | 13484 | SUNSET DR | $26,796 | APPLE VALLEY CA | 923080000 | 2457.63 | R-3 | Zone R-3-()U | Limited multiple residence |
| 15 | 40318 | 173RD ST E | $95,568 | PALMDALE CA | 935910000 | 22011.44 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 16 | 17287 | PARKVALLEY AVE | $95,705 | LAKE LOS ANGELES CA | 935910000 | 20375.55 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 17 | 42412 | 056 ST W | $114,240 | LANCASTER CA | 935360000 | 22203.07 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 18 | 17225 | PARKVALLEY AVE | $70,087 | PALMDALE CA | 935910000 | 21792.20 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 19 | 17104 | AVE K 4 | $69,153 | LANCASTER CA | 935350000 | 20146.37 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 20 | 40107 | 172ND ST E | $98,916 | PALMDALE CA | 935910000 | 26024.78 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 21 | 40119 | 173RD ST E | $105,774 | LAKE LOS ANGELES CA | 935910000 | 19976.09 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 22 | 17165 | SCHOLLVIEW AVE | $100,138 | LAKE LOS ANGELES CA | 935910000 | 27060.82 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 23 | 40341 | FIELDSPRING ST | $107,900 | PALMDALE CA | 935910000 | 30151.64 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 24 | 40326 | FIELDSPRING ST | $82,284 | LAKE LOS ANGELES CA | 935910000 | 21809.58 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 25 | 40327 | FIELDSPRING ST | $110,000 | PALMDALE CA | 935910000 | 24614.04 | R-3-20U | Zone R-3-()U | Limited multiple residence |
| 26 | 40012 | 17TH ST | $110,364 | LAKE LOS ANGELES CA | 935910000 | 24877.15 | R-3-20U | Zone R-3-()U | Limited multiple residence |

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY COMPREHENSIVE PLAN
## NUMBER OF DEVELOPED SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

**MULTI-FAMILY (RESIDENTIAL) [1]**

| No. of Unit | MAIL_NUMBER | MAIL_STREE | IMPROVED VALUE [2] | MAIL_CITY_ | MAIL_ZIP_C | AREA_SQFT | ZONE | Z_NAME | Z_DESC |
|---|---|---|---|---|---|---|---|---|---|
| 692 | 821 | AVENUE P12 | $109,718 | PALMDALE CA | 935500000 | 5935.63 | R-2 | Zone R-2 | Two-family residence |
| 693 | 801 | AVENUE P12 | $51,104 | PALMDALE CA | 935500000 | 6679.47 | R-2 | Zone R-2 | Two-family residence |
| 694 | | P O BOX 8509 | $35,050 | NORTHRIDGE CA | 913270000 | 6510.85 | R-2 | Zone R-2 | Two-family residence |
| 695 | 44714 | 20TH ST W | $18,275 | LANCASTER CA | 935340000 | 6317.02 | R-2 | Zone R-2 | Two-family residence |
| 696 | 1300 | SARATOGA AVE | $74,481 | VENTURA CA | 930030000 | 6292.07 | R-2 | Zone R-2 | Two-family residence |
| 697 | 38414 | DIVISION ST | $20,000 | PALMDALE CA | 935500000 | 6040.61 | R-2 | Zone R-2 | Two-family residence |
| 698 | 36620 | GEIGER AVE | $252,611 | PALMDALE CA | 935510000 | 6295.52 | R-2 | Zone R-2 | Two-family residence |
| 699 | 23539 | HIGHLAND GLEN DR | $71,537 | NEWHALL CA | 913210000 | 6367.64 | R-2 | Zone R-2 | Two-family residence |
| 700 | 38920 | 9TH ST E | $130,560 | PALMDALE CA | 935500000 | 7266.78 | R-2 | Zone R-2 | Two-family residence |
| 701 | 38920 | RAMBLER AVE | $114,750 | PALMDALE CA | 935500000 | 6242.99 | R-2 | Zone R-2 | Two-family residence |
| 702 | 38921 | 9TH ST E | $39,327 | PALMDALE CA | 935500000 | 6310.78 | R-2 | Zone R-2 | Two-family residence |
| 703 | 849 | AVENUE P12 | $98,708 | PALMDALE CA | 935500000 | 11451.86 | R-2 | Zone R-2 | Two-family residence |
| 704 | 838 | AVENUE P12 | $49,821 | PALMDALE CA | 935500000 | 6118.30 | R-2 | Zone R-2 | Two-family residence |
| 705 | 828 | AVENUE P12 | $33,303 | PALMDALE CA | 935500000 | 6136.87 | R-2 | Zone R-2 | Two-family residence |
| 706 | 839 | AVENUE P12 | $43,935 | PALMDALE CA | 935500000 | 6099.71 | R-2 | Zone R-2 | Two-family residence |
| 707 | 38932 | RAMBLER AVE | $68,103 | PALMDALE CA | 935500000 | 6242.82 | R-2 | Zone R-2 | Two-family residence |
| 708 | 38932 | 9TH ST E | $121,380 | PALMDALE CA | 935500000 | 6992.40 | R-2 | Zone R-2 | Two-family residence |
| 709 | 829 | AVENUE P12 | $85,680 | PALMDALE CA | 935500000 | 6001.27 | R-2 | Zone R-2 | Two-family residence |
| 710 | 37419 | DREXEL ST | $36,715 | PALMDALE CA | 935500000 | 5906.42 | R-2 | Zone R-2 | Two-family residence |
| 711 | 1300 | SARATOGA AVE | $74,481 | VENTURA CA | 930030000 | 6835.38 | R-2 | Zone R-2 | Two-family residence |
| 712 | 22442 | BERDON ST | $160,000 | WOODLAND HLS CA | 913670000 | 6362.61 | R-2 | Zone R-2 | Two-family residence |
| 713 | 38928 | RAMBLER AVE | $40,891 | PALMDALE CA | 935500000 | 6167.88 | R-2 | Zone R-2 | Two-family residence |
| 714 | 707 | MACLAY AVE | $122,400 | SAN FERNANDO CA | 913400000 | 6092.71 | R-2 | Zone R-2 | Two-family residence |
| 715 | 38940 | 9TH ST E | $62,223 | PALMDALE CA | 935500000 | 6871.70 | R-2 | Zone R-2 | Two-family residence |
| | | | | | **Area ($ft^2$)** | **17,046,742.49** | | | |
| | | | | | **Area (ac)** | **391.34** | | | |
| | | | | | **No. of Units** | **715** | | | |

**COMMERCIAL/INDUSTRIAL [1]**

| No. of Unit | MAIL_NUMBER | MAIL_STREE | IMPROVED VALUE [2] | MAIL_CITY_ | MAIL_ZIP_C | AREA_SQFT | ZONE | Z_NAME | Z_DESC |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 40432 | 11TH ST W | $344,637 | PALMDALE CA | 935510000 | 46927.44 | C-M-DP | Zone C-M | Commercial manufacturing |
| 2 | 918 | PALMDALE BLVD | $659,233 | PALMDALE CA | 935500000 | 89148.73 | CPD | Zone CPD | Commercial planned development |
| 3 | 10735 | AQUA VISTA ST | $123,583 | N HOLLYWOOD CA | 916020000 | 19995.37 | C-2 | Zone C-2 | Neighborhood commercial |

# DEPARTMENT OF PUBLIC WORKS
## WATERSHED MANAGEMENT DIVISION
## ANTELOPE VALLEY COMPREHENSIVE PLAN
## NUMBER OF DEVELOPED SINGLE-FAMILY LOTS, MULTI-FAMILY LOTS, AND THE COMMERCIAL/INDUSTRIAL ACREAGE WITHIN THE UNINCORPORATED AREAS

COMMERCIAL/INDUSTRIAL [1]

| No. of Unit | MAIL_NUMBER | MAIL_STREE | IMPROVED VALUE [2] | MAIL_CITY_ | MAIL_ZIP_C | AREA_SQFT | ZONE | Z_NAME | Z_DESC |
|---|---|---|---|---|---|---|---|---|---|
| 284 | 42422 | 20TH ST W | $120,836 | LANCASTER CA | 935340000 | 10372.00 | M-1 | Zone M-1 | Light manufacturing |
| 285 | 42816 | BLUEHILLS DR | $113,730 | LAKE HUGHES CA | 935320000 | 43737.90 | M-1 | Zone M-1 | Light manufacturing |
| 286 | | PO BOX 58104 | $509,154 | VERNON CA | 900580000 | 36669.16 | M-1 | Zone M-1 | Light manufacturing |
| 287 | 4826 | SANTA FE AVE | $13,247 | VERNON CA | 900580000 | 137616.21 | M-1 | Zone M-1 | Light manufacturing |
| 288 | | PO BOX 1 | $13,724 | LITTLEROCK CA | 935430000 | 12795.01 | M-1 | Zone M-1 | Light manufacturing |
| 289 | 48051 | 90TH ST W | $10,840 | LANCASTER CA | 935360000 | 41426.68 | M-1 | Zone M-1 | Light manufacturing |
| 290 | 32202 | JOAQUIN DR | $97,362 | ACTON CA | 935100000 | 6271.14 | M-1 | Zone M-1 | Light manufacturing |
| 291 | 1050 | AVENUE M | $18,897 | LANCASTER CA | 935340000 | 27318.84 | M-1 | Zone M-1 | Light manufacturing |
| 292 | | PO BOX 3275 | $74,745 | QUARTZ HILL CA | 935860000 | 30771.62 | M-1 | Zone M-1 | Light manufacturing |
| 293 | | P O BOX 900640 | $8,130 | PALMDALE CA | 935900000 | 19324.21 | M-1 | Zone M-1 | Light manufacturing |
| 294 | | P O BOX 900640 | $8,130 | PALMDALE CA | 935900000 | 6001.76 | M-1 | Zone M-1 | Light manufacturing |
| 295 | 605 | LAGUNA DR | $29,674 | SIMI VALLEY CA | 930650000 | 80842.38 | M-1 | Zone M-1 | Light manufacturing |
| 296 | 38507 | 15TH ST E | $58,987 | PALMDALE CA | 935500000 | 142119.93 | M-1 | Zone M-1 | Light manufacturing |
| 297 | | PO BOX 118 | $17,748 | LITTLEROCK CA | 935430000 | 79507.68 | M-1 | Zone M-1 | Light manufacturing |
| 298 | 14021 | MARQUESAS WAY | $18,852 | MARINA DL REY CA | 902920000 | 15494.55 | M-1 | Zone M-1 | Light manufacturing |
| 299 | 35022 | 82ND ST E | $50,988 | LITTLEROCK CA | 935430000 | 12863.12 | M-1 | Zone M-1 | Light manufacturing |
| 300 | 35022 | 82ND ST E | $50,988 | LITTLEROCK CA | 935430000 | 39824.49 | M-1 | Zone M-1 | Light manufacturing |
| 301 | | PO BOX 118 | $17,748 | LITTLEROCK CA | 935430000 | 8579.04 | M-1 | Zone M-1 | Light manufacturing |
| 302 | 34446 | 125TH ST E | $24,939 | PEARBLOSSOM CA | 935530000 | 16561.59 | M-1 | Zone M-1 | Light manufacturing |
| 303 | 2127 | AVENUE Q2 | $91,912 | PALMDALE CA | 935500000 | 132810.41 | M-1 | Zone M-1 | Light manufacturing |
| 304 | 9832 | CALVIN AVE | $281,467 | NORTHRIDGE CA | 913240000 | 55327.13 | M-1-DP | Zone M-1 | Light manufacturing |
| 305 | 39015 | 8TH ST E | $49,760 | PALMDALE CA | 935500000 | 116449.32 | M-1 | Zone M-1 | Light manufacturing |
| 306 | 9513 | GOODBEE ST | $39,743 | PICO RIVERA CA | 906600000 | 4798.81 | M-1 | Zone M-1 | Light manufacturing |
| 307 | 38963 | SIERRA HWY | $38,591 | PALMDALE CA | 935500000 | 23925.05 | M-1 | Zone M-1 | Light manufacturing |
| 308 | 38963 | SIERRA HWY | $38,591 | PALMDALE CA | 935500000 | 171336.07 | M-1 | Zone M-1 | Light manufacturing |
| | | | | | **Area ($ft^2$)** | **42,697,178.03** | | | |
| | | | | | **Area (ac)** | **980.19** | | | |

Footnote:

(1) Mapping and Property Management Division produced a digital version of the 1987 Antelope Valley Drainage Area. Within the Drainage Area, parcels with improvement values greater than $5,000 were considered developed. Utilizing the ArcMap software and given the attributed land use designations, the total developed square footage and the number of developed parcels were derived, excluding totals within the cities of Palmdale and Lancaster and Edwards Air Force Base.

(2) Improved value is the estimated value of the structure or attribute within a given lot.

NOTICE OF PUBLIC HEARING
PROPOSED FEE INCREASE

Notice is hereby given that a public hearing will be held by the Board of Supervisors regarding revisions to the drainage impact fee as described in the Antelope Valley Final Report on the Comprehensive Plan of Flood Control and Water Conservation.

Said hearing will be held on September 26, 2006, at 9:30 a.m., in the hearing room of the Board of Supervisors, Room 381, Hall of Administration, 500 West Temple Street (corner of Temple Street and Grand Avenue) Los Angeles, California 90012.

The Board of Supervisors will consider and may adopt the proposed fee increase. Further, notice is given that the Board of Supervisors may continue this hearing from time to time.

Written comments may be sent to the Executive Office of the Board of Supervisors at the above address. If you do not understand this notice or need more information please call (310) 939-7214.

Si no entiende esta noticia o si necesita más información favor de llamar al número (310) 939-7214.

BH:ad
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