CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

August 21, 2025

Nina Villa
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, NM 87124

RE: North Domingo Baca Aquatic Center
Grading & Drainage Plan & LOMR
Engineer's Stamp Date: 5/12/2025
Hydrology File: C18D043E
Case # HYDR-2025-00162

Dear Ms. Villa:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 08/21/2025, the LOMR Application is approved for submittal to FEMA, the Floodplain Development Permit (FPP# C18F043E) is approved for construction, and the Elevation Certificate is accepted.

PRIOR TO CERTIFICATE OF OCCUPANCY:

1. Engineer's Certification, per the DPM Part 6-14 (F) : *Engineer's Certification Checklist For Non-Subdivision* is required.
2. A final (as-built) elevation certificate must be submitted and approved by Hydrology prior to issuing approval for Certificate of Occupancy.
3. Approval of the LOMR by FEMA for the map revision.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

Sincerely,

Anthony Montoya, Jr., P.E., C.F.M.
Senior Engineer, Hydrology
Planning Department, Development Review Services

Floodplain Development Permit Application

Planning Dept., City of Albuquerque

Section 1: General Provisions (Applicant to read and sign)

1. No work of any kind may start in a Special Flood Hazard Area, SFHA, until a permit is issued.
2. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal regulatory requirements.
3. Applicant hereby gives consent to the Floodplain Administrator and his/her representative to make reasonable inspections required to verify compliance.
4. Applicant must provide a Critical Habitat for Threatened & Endangered Species report prior to any work in a SFHA.
5. Applicant must provide the Base Flood Elevation, BFE, and must provide engineering calculations demonstrating that the development will not increase the BFE or result in increased flood risk on any neighboring property.
6. If this application is for a building the floodplain must be removed by first constructing any required storm drain and/or channel modifications and second acquiring a Letter of Map Revision, LOMR, from FEMA before a building permit will be issued. If storm drain and channel modifications are not involved then a draft Elevation Certificate must be submitted prior to Building Permit and a Final Elevation Certificate must be submitted prior to Certificate of Occupancy.
7. A Conditional Letter of Map Revision, CLOMR, is required prior to any work in the FLOODWAY, if applicable.
8. The applicant certifies that all statements herein and in attachments to this application are, to the best of my knowledge, true and accurate.

Applicant Signature Nina J-Villa Date May 13, 2025

Applicant Printed Name Nina Villa, Huitt-Zollars Phone #: 505-892-5141

Owner Signature [signature] Date 8-26-25

Owner Printed Name Jennifer Turner Phone #: 505-768-3830

Applicant is (check one): Owner _____ Builder _____ Engineer/Architect X

Section 2: Proposed Development in Special Flood Hazard Area (to be completed by Applicant)

Project address/Legal Disc/Location: North Domingo Baca Aquatic Center

Tract A, Plat of Tract A - North Domingo Park

7521 Carmel Avenue, Albuquerque, NM 87113

[redacted]

Section 2 (Cont.) - Description of Work in Special Flood Hazard Area (SFHA):

A. Building Development and Building Type

ACTIVITY	STRUCTURE TYPE
_X_ New Building	____ Residential (1-4 Family)
____ Addition	____ Residential (More than 4 Family)
____ Alteration	_X_ Non Residential (Flood-proofing? ____ Yes)
____ Relocation	____ Combined Use (Residential & Commercial)
___ Demolition	____ Manufactured Home (In Mobile Home Park? ____ Yes)
____ Replacement	

If an addition or alteration:

Estimated Cost of Project $ 64 Million

Estimated Value of structure before addition/alteration. $ 0

Percent of value (new construction /existing value) 100 %

B. Other Development Activities

_X_ Clearing _X_ Grading _X_ Utilities _X_ Paving

____ Watercourse Alteration (Bridge or Channel Modification)

_X_ Drainage Improvements (Storm drain or culverts)

____ Road, Street or Bridge Construction

____ Subdivision

_X_ Walls or Fences

____ Storage of Materials/Equipment for more than a year. (Materials Volume (cu. Ft.) _____)

Other (Please Specify) _____

Is there a Grading & Drainage Plan associated with this work? Yes _X_ No ____

Drainage file Number: C19D043

Section 3: Floodplain Determination (Completed by the Floodplain Administrator)

_X_ The proposed development is located on FIRM Panel: 0137H and 0141G

____ The proposed development is located in Zone X and NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED.

____ A portion of the proposed development is located in a SFHA but not any buildings so an approved G&D Plan is required (Engineer's Stamp Date_____) prior to issuance of a Floodplain Development Permit and no Building Permit will be issued for this construction.

____ A portion of the proposed Building is located in a SFHA but the project does not include any storm drain improvements and/or channel modifications so:

1. Approved G&D Plan is required (Engineer's Stamp Date_____) prior to issuance of a Floodplain Development Permit,
2. Draft Elevation Certificate (Date_____) is required prior to issuance of a Building Permit, and
3. Final Elevation Certificate and Engineer's Certification is required prior to Certificate of Occupancy.

_X_ A portion of the proposed Building is located in a SFHA and the project includes storm drain improvements and/or channel modifications that will change the floodplain location so

1. An Approved Grading and Drainage Plan is required (Engineer's Stamp Date 12/14/23 & 09/18/23) prior to issuing a Flood Plain Development Permit and a Grading Permit and/or a Work Order. HT# C19D043E
2. The improvements must be constructed and an Approved Engineer's Certification (Engineer's Stamp Date 6/24/05) and an Approved LOMR Request (Engineer's Stamp Date 5/12/2025) must be approved by Hydrology prior to approval of the LOMR application to FEMA.
3. The Floodplain must be removed by a LOMR from FEMA (Date N/A) prior to issuance of a Building Permit.

____ A portion of the proposed development is located in a FLOODWAY so:

1. Approved G&D Plan (Engineer's Stamp Date_____) and an Approved CLOMR Request (Date_____) is required prior to approval of the application to FEMA, and
2. CLOMR from FEMA (Date_____) is required prior to issuance of a Floodplain Development Permit, a Grading Permit, and/or a Work Order.
3. The improvements must be constructed and an Approved Engineer's Certification (Engineer's Stamp Date_____) and an Approved LOMR Request (Engineer's Stamp Date_____) must be approved by Hydrology prior to approval of the LOMR application to FEMA (Date_____).
4. The Floodplain must be removed by a LOMR from FEMA (Date_____) prior to issuance of a Building Permit.

Drainage File Number: C19D043E Floodplain Permit Number: C19F043E

Signed: _____ Date: 8/21/2025

Printed Name: Anthony Montoya, Jr., P.E., C.F.M.

REQUEST FOR LETTER OF MAP REVISION
TO FIRM PANEL 35001C0141G & 35001C0137H

PREPARED FOR:

FEMA

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 8/21/2025
BY:
HydroTrans # C19D043E

THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTIONS FOR ERRORS OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS. SUCH APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

PREPARED BY:

HUITT-ZOLLARS
333 RIO RANCHO BLVD., SUITE 101
RIO RANCHO, NEW MEXICO 87124

MAY 2025

HZI Project R312254.01

Request for Letter of Map Revision
North Domingo Baca Park

I, Nina Leung-Villa, being first duly sworn upon my oath, state that I am a registered professional engineer, qualified in civil engineering and that the accompanying report was prepared by me or under my supervision and is true and correct to the best of my knowledge and belief.

Nina L-Villa

May 12, 2025

TABLE OF CONTENTS

Item 1

Description of the Revision

Item 1. Description of the Revision

The purpose of the request is to revise the current floodplain mapping for the North Domingo Baca (NDB) Park between Wyoming Blvd NE and Louisiana Blvd NE. The map revision references The FIS report numbered 35001CV001D. This report provides the 1-percent-annual-chance peak discharge for the North Arroyo de Domingo Baca flooding source at Wyoming Boulevard.

The NDB Pool Complex will be the next project to be constructed within the North Domingo Baca development. This will include an indoor and outdoor aquatic center for community engagement. The North Domingo Baca development is currently documented as being within flood zone AO (Depth 1'), however current conditions altered the flood zone and is constrained to a designated area in the development. This report is only providing current conditions in order to update FIRM panels 0141G and 0137H.

The drainage structure that was constructed to direct the stormwater is two 6'x10' box culverts from Wyoming Blvd to the Kinney Dam and acts as the current drainage device that directs the stormwater to the Kinney Dam. Refer to the "Construction Plans for North Domingo Baca Park Phase 4 Construction – Box Culvert", (Smith Engineering, 2005) for culvert details located in Appendix 7. Hydraulic analysis was completed utilizing the HEC-RAS application and indicates the current culvert is efficient and directs the stormwater to Kinney Dam appropriately. The current FEMA flood zone indicates the development is within flood zone AO (Depth 1') and needs to be updated to reflect that the entire development, not including Kinney Dam should not be in a flood zone. See Exhibit 5 for the updated flood zone area (Kinney Dam is the flood zone in the area and will remain zone AE (EL 5320)). For the existing Kinney Dam Design please refer to "Final Design Analysis Report for Lower North Domingo Baca Detention Dam (Resource Technology, Inc., 1995)"

Huitt-Zollars requests that FEMA revise the current Flood Insurance Rate Map of Albuquerque, NM to incorporate and reflect the current flood zone conditions FIRM panels 0141G & 0137H.

Item 2

FEMA MT-2 Form 1
(OVERVIEW & CONCURRENCE FORM)

DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency

OVERVIEW & CONCURRENCE FORM

OMB Control Number: 1660-0016
Expiration: 1/31/2024

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472 , Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.
PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).
ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.
DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☐ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72). All CLOMRs require documentation of compliance with the Endangered Species Act. Refer to the Instructions for details.

☒ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72).

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
350002	City of Albuquerque	NM	35001C	0137H	8/16/2012
350002	City of Albuquerque	NM	35001C	0141G	9/26/2008

2. a. Flooding Source: North Arroyo de Domingo Baca

b. Types of Flooding: ☐ Riverine ☐ Coastal ☒ Shallow Flooding (e.g., Zones AO and AH) ☐ Alluvial Fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: North Domingo Baca Aquatic Center

4. FEMA zone designations (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

a. Effective: AO and AE

b. Revised: X

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change	☒ Improved Methodology/Data	☐ Regulatory Floodway Revision	☒ Base Map Changes
☐ Coastal Analysis	☒ Hydraulic Analysis	☐ Hydrologic Analysis	☐ Corrections
☐ Weir-Dam Changes	☐ Levee Certification	☐ Alluvial Fan Analysis	☐ Natural Changes
☒ New Topographic Data	☐ Other (Attach Description)		

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: ☐ Channelization	☐ Levee/Floodwall	☒ Bridge/Culvert	
☐ Dam	☐ Fill	☒ Other (Attach Description)	

6. ☐ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $ _____

☐ No, Attach Explanation

- **Please see the DHS-FEMA Web site at http://www.fema.gov/forms-documents-and-software/flood-map-related-fees for Fee Amounts and Exemptions.**

D. SIGNATURES

1. REQUESTOR'S SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Nina Leung-Villa	Company: Huitt-Zollars, Inc.
Mailing Address: 333 Rio Rancho Drive NE, Suite 101 Rio Rancho, NM 87124	Daytime Telephone: 505-264-8249 Fax No.:
	E-mail Address: nvilla@huitt-zollars.com
	Date: May 12, 2025

Signature of Requestor (required): Nina L-Villa

2. COMMUNITY CONCURRENCE

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Anthony Montoya, Jr., P.E., C.F.M., Senior Engineer

Mailing Address: PO Box 1293 Albuquerque, NM 87103	Community Name: City of Albuquerque
	Daytime Telephone: 505-924-3314 Fax No.:
	E-mail Address: amontoya@cabq.gov

Community Official's Signature (required): Anthony Montoya Date: 8/21/2025

3. CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Nina Leung-Villa		License No.: 25970	Expiration Date: 12-31-26
Company Name: Huitt-Zollars		Mailing Address: 333 Rio Rancho Dr. NE Rio Rancho, NM 87124	
Telephone No.: 505-892-5141	Fax No.:		
E-mail Address: nvilla@huitt-zollars.com			
Signature: Nina L-Villa		Date: May 12, 2025	

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if …
☐ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

Item 3

FEMA MT-2 Form 2
(RIVERINE HYDROLOGY & HYDRAULICS)

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

RIVERINE HYDROLOGY & HYDRAULICS FORM (FORM 2)

OMB Control Number: 1660-0016
Expiration: 1/31/2024

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472 , Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

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AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.
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ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.
DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

Flooding Source: North Arroyo de Domingo Baca

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply):

☒ Not revised (skip to section B) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☐ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	Effective/FIS (cfs)	Revised (cfs)

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Precipitation/Runoff Model → Specify Model: _____ Duration: _____ Rainfall Amount: _____

☐ Statistical Analysis of Gage Records

☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review. 4. HEC-RAS File Description**:

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport? ☐ Yes ☐ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevation (ft.)	
			Effective	Proposed/Revised
Downstream Limit*	Kinney Dam		5320	5320

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: HEC-RAS

☒ Steady State ☐ Unsteady State ☐ One-Dimensional ☐ Two-Dimentional

3. Pre-Submittal Review of Hydraulic Models*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4. HEC-RAS File Description**:

Models Submitted	Natural Run		Floodway Run		Datum
Duplicate Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
NONE					
Corrected Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
NONE					
Existing or Pre-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
North Arroyo de Domingo Baca			North Arroyo de Domingo Baca	Plan 03	
Revised or Post-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
NONE					
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	
NONE					

* For details, refer to the corresponding section of the instructions.
**See instructions for information about modeling other then HEC-RAS. ☒ Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A **certified topographic work map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Topographic Information: ☒ Digital Mapping (GIS/CADD) Data Submitted (preferred)

Source: SURVEY - NDB_PARK TOPO & NDB_CHANNEL_TOPO Date: 12/6/2024

Vertical Datum: NAVD 1988 Spatial Projection: New Mexico State Plane

Accuracy:

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM**, at the same scale as the original, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

☒ Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) or Special Flood Hazard Areas (SFHAs) increase compared to the effective BFEs? ☐ Yes ☒ No

   If Yes, please attach **proof of property owner notification**. Examples of property owner notifications can be found in the MT-2 Form 2 Instructions.

2. For CLOMR requests, if either of the following is true, please submit **evidence of compliance with Section 65.12 of the NFIP regulations**:

   - The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
   - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.

3. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

   If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

4. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

   If Yes, attach **evidence of regulatory floodway revision notification**. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.

5. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA). For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.

Item 4

Culvert Analysis
(HEC-RAS, North Arroyo de Domingo Baca)

Existing Pond Survey
&
Upstream North Domingo Baca Survey

Item 4. HEC-RAS, North Arroyo de Domingo Baca

HEC-RAS:
Version: 6.5 Date: 01Feb2024

The analysis for the culvert design utilizes HEC-RAS to assure the design is adequate to handle the peak flow. The culvert cross section was determined by way of new survey. The survey verified that the culvert is two 10' x 6' CBC's located between Wyoming Boulevard and the Kinney Dam entry opening. The cross-section dimensions will be held through the culvert beginning at the Wyoming location down to the outfall into Kinney Dam pond. See the HEC-RAS report for more details.

The peak flow was obtained from the existing Flood Insurance Study, Volume 1 of 2 for the Bernalillo County and Incorporated Areas. The indicated flow for the 1-Percent-Annual-Chance is 658 CFS at Wyoming Boulevard. The peak flow maintains an elevation that is lower then the top of the culvert and will efficiently be directed towards Kinney Dam. These results indicate that the culvert is currently functioning as a sustainable drainage device.

HEC-RAS HEC-RAS 6.5 February 2024
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: North Arroyo de Domingo Baca
Project File : NorthArroyodeDom.prj
Run Date and Time: 12/9/2024 11:48:04 AM

Project in English units

PLAN DATA

Plan Title: Plan 03
Plan File : h:\Transfer\Corie\NorthArroyodeDom.p03

Geometry Title: NORTH DOMINGO BACA
Geometry File : h:\Transfer\Corie\NorthArroyodeDom.g02

Flow Title : NDB Flow
Flow File : h:\Transfer\Corie\Aquatic Center\HEC-RAS\NorthArroyodeDom.f12

Plan Summary Information:
Number of: Cross Sections = 4 Multiple Openings = 0
Culverts = 1 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: NDB Flow
Flow File : h:\Transfer\Corie\Aquatic Center\HEC-RAS\NorthArroyodeDom.f12

Flow Data (cfs)

River	Reach	RS	PF 1
NDB	1	1900	658

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
NDB	1	PF 1	Normal S = 0.025	Known WS = 5320

CROSS SECTION

RIVER: NDB
REACH: 1 RS: 1900

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	5385.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.		0.013	
W.S. Elev (ft)	5384.72	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)		126.13	
E.G. Slope (ft/ft)	0.000382	Area (sq ft)		126.13	
Q Total (cfs)	658.00	Flow (cfs)		658.00	
Top Width (ft)	31.44	Top Width (ft)		31.44	
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)		5.22	
Max Chl Dpth (ft)	4.72	Hydr. Depth (ft)		4.01	
Conv. Total (cfs)	33660.6	Conv. (cfs)		33660.6	
Length Wtd. (ft)	10.00	Wetted Per. (ft)		35.35	
Min Ch El (ft)	5380.00	Shear (lb/sq ft)		0.09	
Alpha	1.00	Stream Power (lb/ft s)		0.44	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		1.04	
C & E Loss (ft)	0.01	Cum SA (acres)		1.37	

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	Chan	0.00	6.80	48.88	14.92	7.48	7.43	2.70	3.28	0.05	0.16
2	Chan	6.80	13.60	186.75	32.10	6.80	28.38	4.72	5.82	0.11	0.66
3	Chan	13.60	20.40	186.75	32.10	6.80	28.38	4.72	5.82	0.11	0.66
4	Chan	20.40	27.20	186.74	32.10	6.80	28.38	4.72	5.82	0.11	0.66
5	Chan	27.20	34.00	48.88	14.92	7.48	7.43	2.70	3.28	0.05	0.16

CROSS SECTION

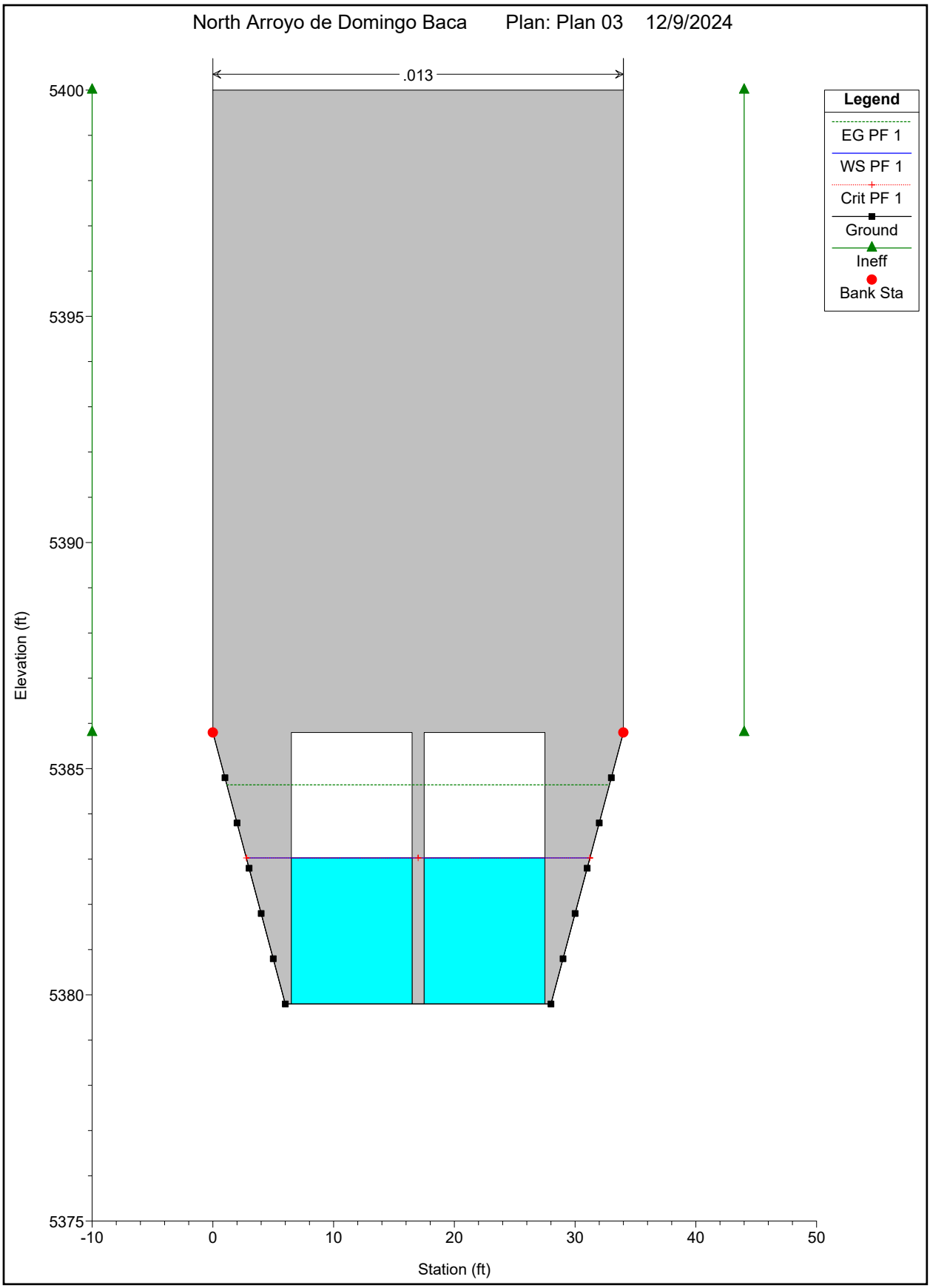
RIVER: NDB
REACH: 1 RS: 1890

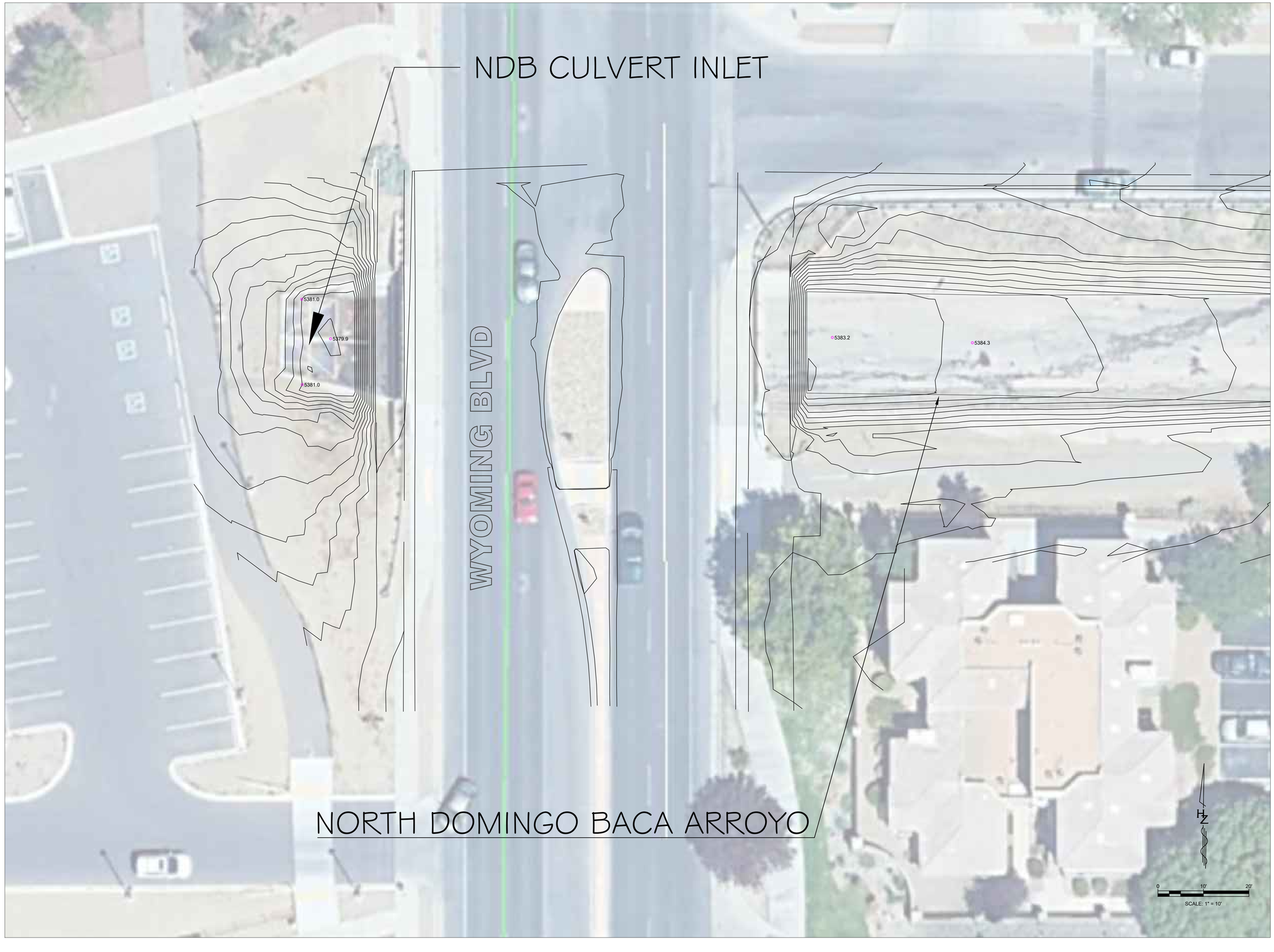
CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	5385.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.		0.013	
W.S. Elev (ft)	5384.75	Reach Len. (ft)	1880.00	1880.00	1880.00
Crit W.S. (ft)	5382.69	Flow Area (sq ft)		133.33	
E.G. Slope (ft/ft)	0.000325	Area (sq ft)		133.33	
Q Total (cfs)	658.00	Flow (cfs)		658.00	
Top Width (ft)	31.90	Top Width (ft)		31.90	
Vel Total (ft/s)	4.94	Avg. Vel. (ft/s)		4.94	
Max Chl Dpth (ft)	4.95	Hydr. Depth (ft)		4.18	
Conv. Total (cfs)	36484.9	Conv. (cfs)		36484.9	
Length Wtd. (ft)	1880.00	Wetted Per. (ft)		35.99	
Min Ch El (ft)	5379.80	Shear (lb/sq ft)		0.08	
Alpha	1.00	Stream Power (lb/ft s)		0.37	
Frctn Loss (ft)		Cum Volume (acre-ft)		1.01	
C & E Loss (ft)		Cum SA (acres)		1.36	

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	Chan	0.00	6.80	50.18	16.20	7.80	7.63	2.82	3.10	0.04	0.13
2	Chan	6.80	13.60	185.88	33.64	6.80	28.25	4.95	5.52	0.10	0.56
3	Chan	13.60	20.40	185.88	33.64	6.80	28.25	4.95	5.52	0.10	0.56
4	Chan	20.40	27.20	185.88	33.64	6.80	28.25	4.95	5.52	0.10	0.56
5	Chan	27.20	34.00	50.18	16.20	7.80	7.63	2.82	3.10	0.04	0.13


North Arroyo de Domingo Baca Plan: Plan 03 12/9/2024
.013
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
5400
5395
5390
5385
5380
5375
-10
0
10
20
30
40
50
Station (ft)



HUITT ZOLLARS
333 Rio Rancho Dr. NE, Suite 101
Rio Rancho, New Mexico 87124
505.892.5141
www.huitt-zollars.com

NORTH DOMINGO BACA

LOMR

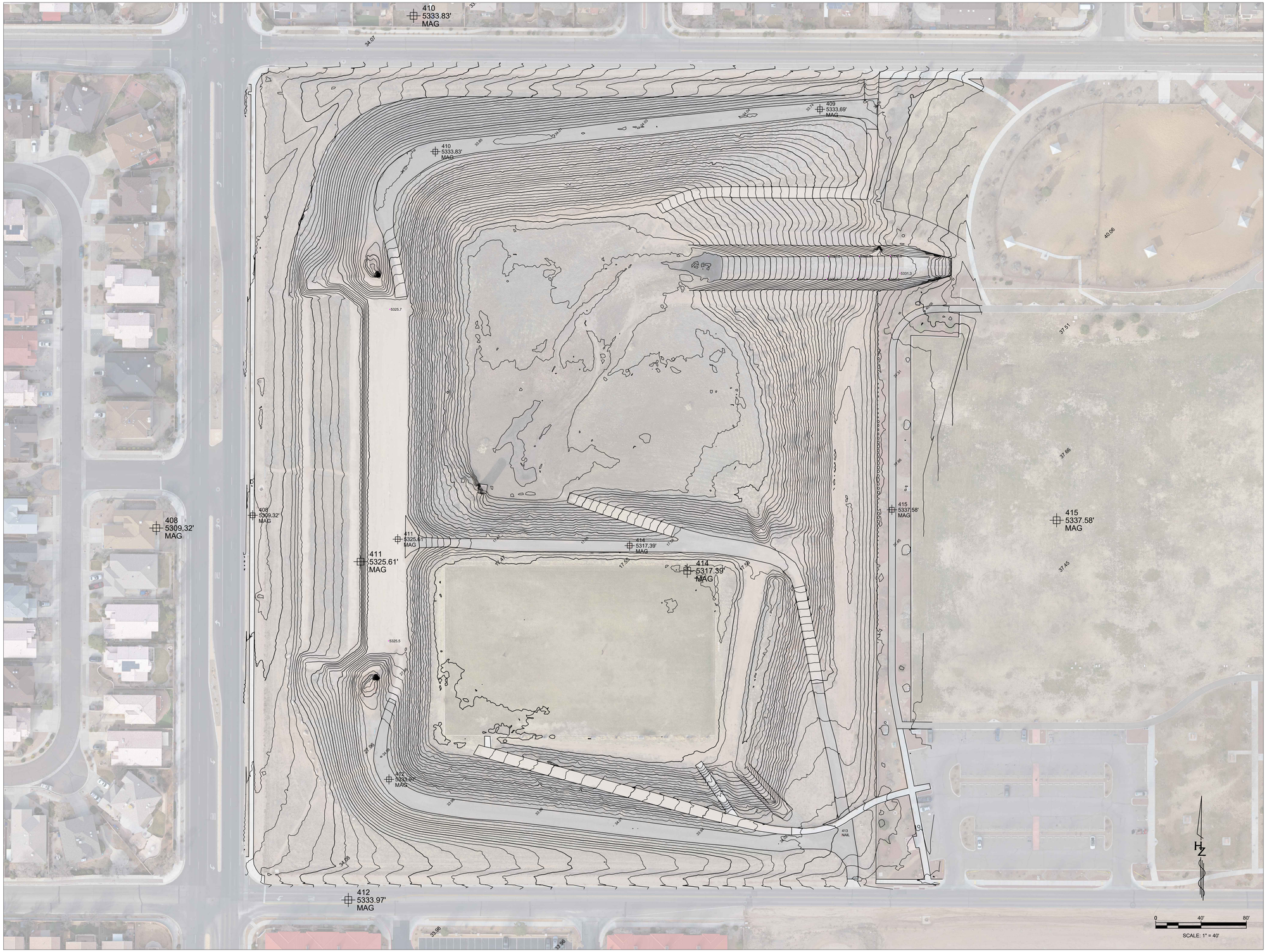
PROJECT NO.:	
DRAWN BY:	STAFF
REVIEWED BY:	STAFF
APPROVED BY:	STAFF

ISSUE DRAWING LOG:

NORTH DOMINGO BACA CHANNEL

LOMR EXHIBIT

H:\TRANSFER\CORIE\AQUATIC CENTER\NDB LOMR EXHIBIT_RECOVER.DWG
9/12/2023 3:04 PM



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NORTH DOMINGO BACA

LOMR

PROJECT NO.:	
DRAWN BY:	STAFF
REVIEWED BY:	STAFF
APPROVED BY:	STAFF

ISSUE DRAWING LOG:

KINNEY DAM

LOMR EXHIBIT

H:\TRANSFER\CORIE\AQUATIC CENTER\NDB LOMR EXHIBIT_RECOVER.DWG

9/12/2023 3:04 PM

Item 5

National Flood Hazard Layer Firmette (Existing & Proposed)

National Flood Hazard Layer FIRMette

FEMA

106°34'7"W 35°10'58"N

106°33'29"W 35°10'28"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2024 at 6:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by Bernalillo County produced at a scale of 1:12,000 from photography dated 1999 or later.

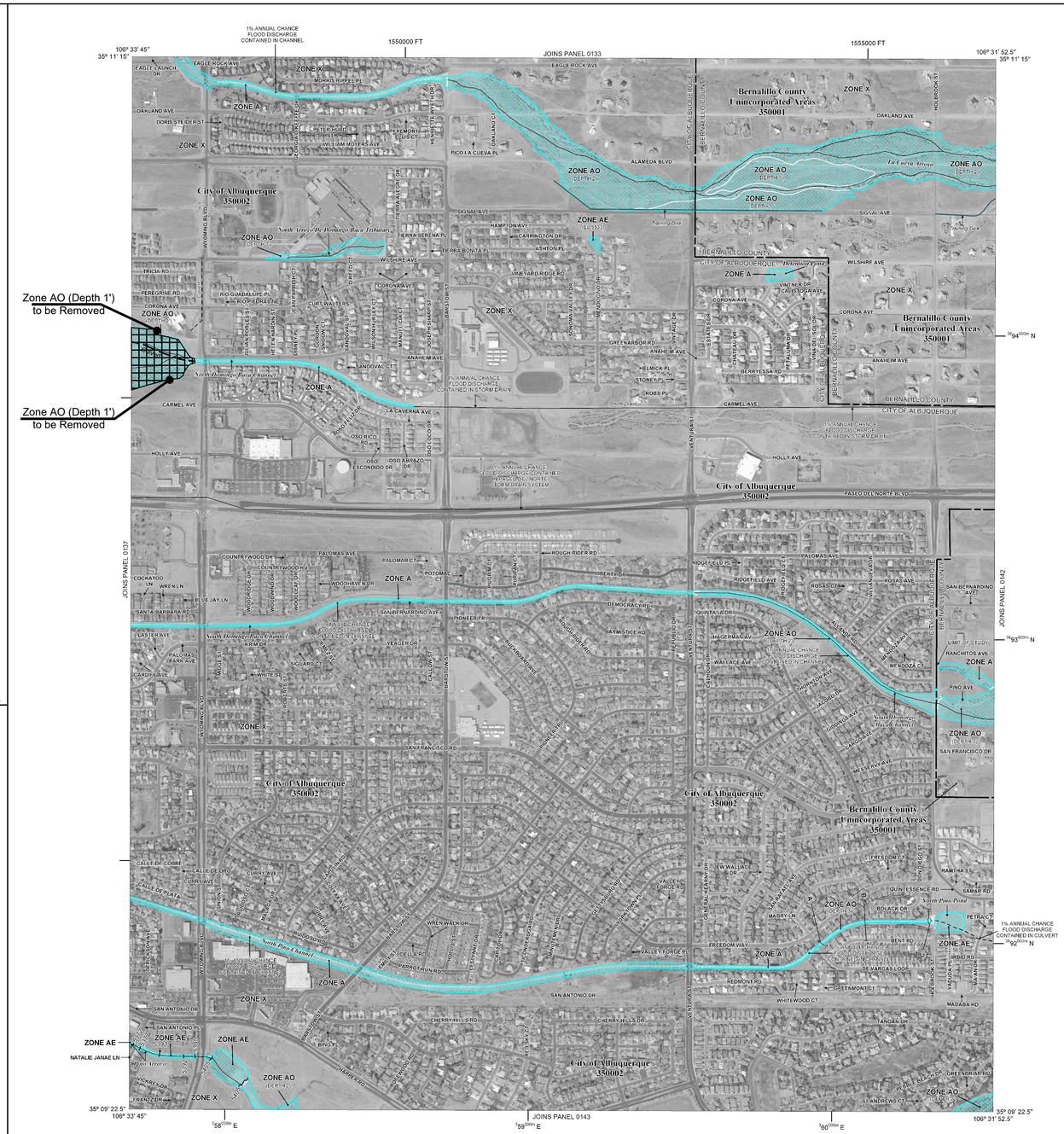
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D Boundary
- CBRS and OPA Boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet* (Base Flood Elevation value where uniform within zone; elevation in feet*)

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 97° 07' 30", 32° 22' 30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4 276 000m E — 1000-meter Universal Transverse Mercator grid values, zone 13
- 600000 FT — 5000-foot grid ticks: New Mexico State Plane coordinate system, Central zone (FIPSZONE 3002), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL
SEPTEMBER 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
April 2, 2002 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to add roads and road names, to reflect updated topographic information, and to incorporate previously issued Letters of Map Revision.

November 19, 2003 - to update corporate limits and to incorporate previously issued Letters of Map Revision.

September 26, 2008 - to update corporate limits, to change Special Flood Hazard Areas, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, to change Base Flood Elevations, to add Base Flood Elevations.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

PANEL 0141G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 141 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0141	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0141	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 35001C0141G

MAP REVISED SEPTEMBER 26, 2008

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone (FIPS 3002). The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

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Base map information shown on this FIRM was provided in digital format by City of Albuquerque, 2010, Bernalillo County, 2004, and 2010, Bureau of Land Management, 2003, National Geodetic Survey, 2003, and United States Geological Survey (USGS), 1999. Additional information was photogrammetrically compiled at a scale of 1:12,000 from U.S. Department of Agriculture aerial photography dated 2009.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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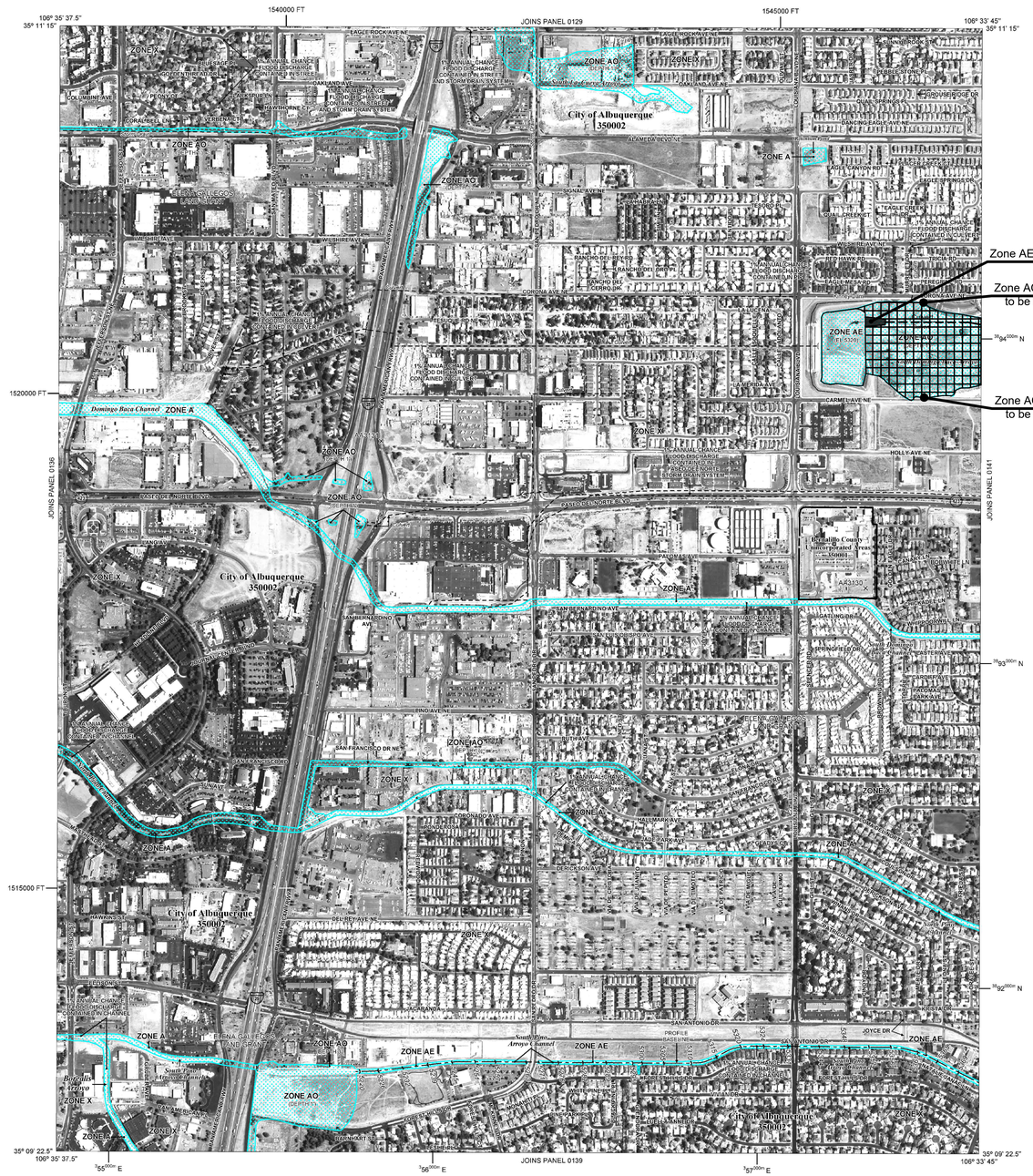

LEGEND

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ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
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- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D Boundary
- CBRS and OPA Boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL. 987) Base Flood Elevation line and value; elevation in feet* / Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A Cross section line
- 23 — 23 Transect line
- 97° 07' 30", 32° 22' 30" / 103° 76' 00"E Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 13
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- M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL

SEPTEMBER 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

April 2, 2002
November 19, 2003
September 26, 2008

August 16, 2012 - to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to add roads and road names, to incorporate previously issued Letters of Map Change.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO
AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0137	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0137H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

Item 6

References

Item 6. References

City of Albuquerque. (2012). **Flood Insurance Study Number 35001CV001D** [FIS Report]. Retrieved from FEMA Flood Map Service Center: FEMA Flood Map Service Center | Welcome!

Final Design Analysis Report for Lower North Domingo Baca Detention Dam (Resource Technology, Inc., 1995)

Item 7

North Domingo Baca Park Phase 4 Construction – Box Culvert Record Drawings

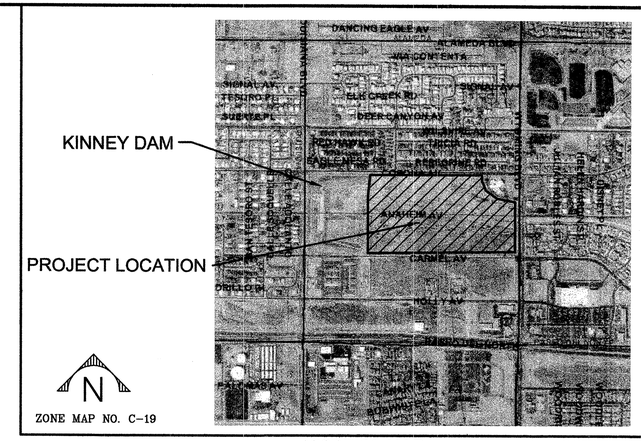
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
PARK DESIGN AND CONSTRUCTION DIVISION

CONSTRUCTION PLANS FOR

NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT

WYOMING BOULEVARD TO KINNEY DAM

JULY 2005



VICINITY MAP

INDEX OF DRAWINGS

APPROVED FOR CONSTRUCTION
4-26-07

DISCLOSURE STATEMENT:
THE SUBJECT PROPERTY IS LOCATED ON/NEAR A FORMER LANDFILL. DUE TO SUBJECT PROPERTY BEING ON/NEAR A FORMER LANDFILL, CERTAIN PRECAUTIONARY MEASURES MAY NEED TO BE TAKEN TO ENSURE THE HEALTH AND SAFETY OF THE PUBLIC. RECOMMENDATIONS MADE BY A PROFESSIONAL ENGINEER WITH EXPERTISE IN LANDFILLS AND LANDFILL GAS ISSUES (AS REQUIRED BY THE MOST CURRENT VERSION OF THE "INTERIM GUIDELINES FOR DEVELOPMENT WITHIN 1000 FEET OF LANDFILLS") SHALL BE CONSULTED PRIOR TO DEVELOPMENT OF THE SITE.

APPROVED FOR CONSTRUCTION
August 3, 2005
MARCIA PINCUS, P.E. DATE
ENVIRONMENTAL HEALTH DEPARTMENT
CITY OF ALBUQUERQUE

APPROVED FOR CONSTRUCTION – CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT, STORM DRAINAGE DESIGN

APPROVED FOR CONSTRUCTION WITHIN AMAFCA R.O.W.
7-19-05
JOHN KELLY, P.E. DATE
EXECUTIVE ENGINEER
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

UTILITY COMPANY CONTACTS

CITY OF ALBUQUERQUE (WATER & SEWER)
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PNM–GAS CO.
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QWEST LONG DISTANCE
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Albuquerque, New Mexico 87102
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McLeod USA
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XSPEDIUS MANAGEMENT CO.
STEVE BENJAMIN
Operations Support Manager
505 Marquette Ave. NW, Suite 1605
Albuquerque, New Mexico 87102
(505) 998-2220

OSO GRANDE TECHNOLOGIES
BUD LENSING
5921 Jefferson St. N.E.
Albuquerque, New Mexico 87109
(505) 345-6555

CALL BEFORE YOU DIG!
STATEWIDE 1-800-321-ALERT
ALBUQUERQUE 260-1990

SEC JOB # 1020358
Smith Engineering Company
A Full Service Engineering Company
5971 San Pedro Boulevard, N.E., Bldg. #1, Suite 300 Albuquerque, New Mexico 87109

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE

ENGINEERS STAMP & SIGNATURE
GEORGE NEUMEYER NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

APPROVED	ENGINEER	DATE
DRC Chairman		8-4-05
Transportation		
Water/Wastewater	William J. Baker	
Hydrology		
C I P		
Constr. Coord.		8-4-05
Parks		

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

PROJECT NUMBER 7138.92

SHEET 1 OF 14

1 THE SPECIFICATIONS USED FOR THIS PROJECT ARE THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION, THROUGH UPDATE NO.7.

2 FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A DETAILED CONSTRUCTION SCHEDULE TO THE CITY CONSTRUCTION COORDINATION DIVISION. TWO (2) DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS.

3 THE CONTRACTOR WILL NOTIFY THE FIELD ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK, IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF CITY AND AMAFCA SURVEY MONUMENTS. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF A MONUMENT IS DISTURBED. REPLACEMENT WILL BE DONE ONLY BY THE CITY SURVEY SECTION. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR WILL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4 OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS.

4 ALL NEW MANHOLES SHALL BE TYPE "E" (COA DWG. 2102) UNLESS OTHERWISE NOTED ON THE PLANS.

5 THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, BUT NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH MATERIALS.

6 ALL WATER VALVE BOXES AND MANHOLES IN THE STREET CONSTRUCTION ARE TO BE ADJUSTED TO FINISH GRADE AND WILL BE MEASURED AND PAID PER EACH.

7 SUBGRADE PREPARATION UNDER SIDEWALKS AND DRIVE PADS, AND SUBGRADE AND SUBBASE PREPARATION UNDER CURB AND GUTTER IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF SUCH, AND NO DIRECT PAYMENT SHALL BE MADE FOR THOSE ITEMS OF WORK.

8 THE WATER SYSTEMS DIVISION (857-8200) WILL BE NOTIFIED BY THE CONTRACTOR SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF STANDARD SPECIFICATIONS.

9 ALL EXCAVATION WILL BE GOVERNED BY FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH. ALL EXCAVATING, TRENCHING & SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 1926.650 SUBPART P.

10 ALL SIGNS AND CODING WILL BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" CURRENT EDITION PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.

11 THE CONTRACTOR IS TO EXERCISE CARE TO AVOID DISTURBING ANY EXISTING UNDERGROUND UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ANY SERVICE DISRUPTION. SEE SECTION 18 "UTILITIES", CITY OF ALBUQUERQUE, STANDARD SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS.

12 WHEN ABUTTING NEW PAVEMENT TO EXISTING INTERSECTING STREETS, SAW CUT EXISTING PAVEMENT TO A STRAIGHT LINE AND AT RIGHT ANGLES AND REMOVE ANY BROKEN OR CRACKED PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR SAW CUTTING.

13 ALL GAS VALVES, GAS MANHOLES, ELECTRICAL MANHOLES, TELEPHONE MANHOLES, AND UTILITY POLES WILL BE ADJUSTED TO GRADE BY EACH UTILITY COMPANY. CONTRACTOR WILL COORDINATE THROUGH CITY UTILITY COORDINATOR.

14 WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE BACK TO NEAREST SUITABLE JOINT UNLESS OTHERWISE DIRECTED BY THE CITY FIELD ENGINEER.

15 THE CONTRACTOR WILL NOTIFY NEW MEXICO ONE CALL SYSTEM 260-1990 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK IN NEW AREAS.

16 CONTRACTOR WILL MAKE ALL WATER VALVES AND MANHOLES ACCESSIBLE TO THE CITY AT ALL TIMES.

17 CONTRACTOR WILL PLACE BITUMINOUS MATERIAL WITH THE USE OF A LAYDOWN MACHINE WHERE PAVEMENT IS 8 FEET IN WIDTH OR WIDER.

18 ALL SUBGRADE AND SUBBASE MATERIAL ENCOUNTERED IN PAVEMENT REMOVAL AND REPLACEMENT THAT IS DETERMINED BY THE FIELD ENGINEER TO MEET THE SPECIFICATIONS, CAN BE REUSED. HOWEVER, THE MATERIAL WILL BE PROCESSED AND COMPACTED TO MEET MOISTURE CONTENT AND PERCENT COMPACTION REQUIRED BY THE SPECIFICATIONS.

19 CONTRACTOR WILL NOT PAVE OVER ANY SURFACE FEATURE, I.E., GAS VALVE, MANHOLE COVER, ETC. WITHOUT PRIOR APPROVAL FROM THE CITY FIELD ENGINEER.

20 CONTRACTOR WILL CONFINE HIS OR HER WORK WITHIN THE CONSTRUCTION EASEMENT LIMITS AND/OR RIGHT-OF-WAY, OR PROVIDE COPIES OF AGREEMENTS WITH ADJACENT LANDOWNERS TO THE CITY OF ALBUQUERQUE.

21 ALL WATER VALVES AND FIRE HYDRANTS REMOVED WILL BE SALVAGED AND RETURNED TO THE C.O.A.

22 MINIMUM BOTTOM WIDTH OF TRENCHES FOR RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER PLUS 16 INCHES. BEDDING MATERIAL SHALL BE CLASS II, III, OR IV UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS.

23 MINIMUM BOTTOM WIDTH OF TRENCHES FOR NON-RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER PLUS 12 INCHES. BEDDING MATERIAL SHALL BE CLASS I, II, OR III.

24 THE CONTRACTOR AGREES TO TAKE NECESSARY SAFETY PRECAUTIONS AS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES TO PROTECT PEDESTRIAN AND VEHICULAR TRAFFIC IN THE CONSTRUCTION AREA, WHICH INCLUDE BUT ARE NOT LIMITED TO: MAINTAINING ADEQUATE WARNING SIGNS, BARRICADES, LIGHTS, GUARD FENCES, WALKS AND BRIDGES.

25 ALL STRUCTURAL CONCRETE TO BE 4000 PSI UNLESS OTHERWISE NOTED ON PLANS.

26 ALL REINFORCING STEEL TO BE GRADE 60.

27 ALL EXPOSED EDGES ON CAST-IN-PLACE CONCRETE STRUCTURES WILL HAVE A 1" CHAMFER UNLESS OTHERWISE NOTED.

28 ALL SPLICES IN REINFORCING STEEL WILL BE 2-FOOT 6-INCH MINIMUM UNLESS OTHERWISE NOTED.

29 PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL CONFLICTING UTILITIES. SHOULD A CONFLICT EXIST BETWEEN THE FIELD INFORMATION AND THE PLANS, THE CONTRACTOR WILL NOTIFY THE CITY FIELD ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH MINIMUM AMOUNT OF DELAY.

30 THE REPLACEMENT OF EXISTING UTILITIES AND THE INSTALLATION OF NEW UTILITY LINES WILL BE COMPLETED IN ADVANCE OF STARTING THE PAVEMENT WORK. TEMPORARY PAVEMENT WILL BE PLACED IN ALL TRENCHES REQUIRED FOR THE UTILITY REPLACEMENTS IN THOSE AREAS THAT MUST MAINTAIN TRAFFIC UNTIL THE FINAL PAVEMENT WORK STARTS IN EACH AREA. TEMPORARY STRIPING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. MAINTENANCE OF THE TEMPORARY PAVING AND STRIPING WILL BE AT THE CONTRACTOR'S EXPENSE.

31 TACK COAT FOR SURFACE COURSE REQUIREMENTS WILL BE DETERMINED BY THE FIELD ENGINEER.

32 THE CONTRACTOR WILL CONTACT THE CITY OF ALBUQUERQUE TRAFFIC DIVISION 764-1599, ONE (1) WEEK IN ADVANCE OF ANY CHANGES REQUIRED IN THE TRAFFIC SIGNALIZATION OF THIS PROJECT. ALL WORK ASSOCIATED WITH NEW TRAFFIC SIGNALIZATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

33 ALL NEW STREET PAVING, DRIVEWAYS, SIDEWALKS, AND CURB AND GUTTERS, ABUTTING EXISTING AREAS SHALL MATCH THE ELEVATION OF THOSE AREAS.

34 PERMANENT PAVEMENT STRIPING AND MARKINGS WILL BE PLACED BY THE CONTRACTOR. ROAD SHALL NOT BE OPENED TO TRAFFIC UNTIL IT IS STRIPED. ALL STRIPING, PAVEMENT MARKINGS INCLUDING CROSSWALKS, ARROWS AND LINE MARKINGS ARE TO BE CONSTRUCTED OF HOT PLASTIC OR COLD PLASTIC IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

35 ALL EXCAVATED MATERIAL THAT IS NOT REQUIRED TO BE REUSED MUST BE REMOVED FROM THE PROJECT AREA WITHIN FOUR DAYS OF EXCAVATION. SPOIL PILES WILL BE ALLOWED ONLY AS DIRECTED BY THE CITY FIELD ENGINEER.

36 THE CONTRACTOR WILL COORDINATE THE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND UTILITY COMPANIES WORKING IN THE SAME AREA. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE THEIR ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE ALLOWED AN EXTENSION OF THE CONTRACT TIME, DUE TO DELAYS, AS DELINEATED IN THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS, SECTION 12.

37 ALL CONSTRUCTION EASEMENTS ON PRIVATE PROPERTY WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

38 EXISTING MEDIAN CURB AND GUTTER AND STANDARD CURB AND GUTTER, NOT DISTURBED BY CONTRACTOR, BUT OUT OF ALIGNMENT, DISPLACED VERTICALLY, BADLY BROKEN AND/OR DETERIORATED, WILL BE REPLACED AS DIRECTED BY THE FIELD ENGINEER AND PAID FOR AT CONTRACT UNIT PRICES.

39 ALL TRAFFIC CONTROL DEVICES REQUIRED FOR DRIVEWAY CLOSURES, UTILITY CONSTRUCTION OR FOR OTHER REASONS AND NOT SHOWN ON THE SIGNING PLANS WILL BE FURNISHED BY THE CONTRACTOR AND WILL BE PAID AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS AND BID PROPOSAL. PRIOR TO PLACING THE TRAFFIC CONTROL DEVICES, THE CONTRACTOR WILL NOTIFY THE AFFECTED OWNERS IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR MUST MAKE PROVISIONS TO PROVIDE ACCESS TO PROPERTIES. REFER TO SECTION 19 OF THE STANDARD SPECIFICATIONS.

40 ALL UTILITY LINES WHICH ARE NOT SPECIFICALLY DESIGNATED TO BE REMOVED AND REPLACED ON THE PLANS, WILL BE MAINTAINED IN SERVICE. SHORING, SHEETING AND OTHER MEANS OF SUPPORT SHALL BE EMPLOYED BY THE CONTRACTOR TO PREVENT DAMAGE OR LOSS OF THESE EXISTING UTILITIES. BEAM AND CABLE OR OTHER ADEQUATE SUPPORTS WILL BE USED FOR TEMPORARY SUPPORT OF ALL UTILITY LINES WHICH CROSS THE TRENCH. ANY DAMAGE TO EXISTING UTILITIES WILL PROMPTLY BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR WILL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SIGNIFICANT DEVIATION OF EXPOSED UTILITIES FROM THE LOCATIONS SHOWN ON THE PLANS SO THAT CONFLICTS CAN BE RESOLVED IN A TIMELY MANNER.

41 THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING COA INFRASTRUCTURE (C & G, PAVING, ETC.) DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS, AND WILL REPAIR OR REPLACE SAME AT HIS OR HER OWN EXPENSE. HE/SHE WILL SUITABLY PROTECT THE CURB AND GUTTER FROM INCIDENTAL SPLASHING DURING THE TACK COAT APPLICATION AND WILL BE RESPONSIBLE FOR CLEANING SAME AT HIS OWN COST SHOULD SPLASHING OCCUR.

42 ALL INTERFERING PORTIONS OF ABANDONED UTILITY LINES WHICH ARE EXPOSED AS A RESULT OF CONSTRUCTION WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

43 STATIONS OF STORM DRAIN INLETS ARE TO THE CENTER OF GRATE. ALL STORM DRAIN INLETS WILL BE TYPE "A" UNLESS OTHERWISE NOTED ON THE PLANS.

44 SHORING COSTS WILL BE CONSIDERED INCIDENTAL TO THE TRENCH AND BACKFILL COSTS.

45 THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING NPDES PERMITS REQUIRED BY APPLICABLE CITY, STATE, AND FEDERAL REGULATIONS.

46 ALL STORM DRAIN AND CONNECTOR PIPE WILL BE CLASS IV REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED ON THE PLANS.

47 THE TERM "REMOVE" USED IN THIS PLAN SET INCLUDES THE DISPOSAL OF SAID MATERIAL IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS, LATEST EDITION.

48 CONTRACTOR WILL SURVEY AND LOG EXISTING ELEVATIONS OF CURB-AND-GUTTER, SIDEWALK, AND PAVEMENT WHICH WILL BE REMOVED FOR CONSTRUCTION OF IMPROVEMENTS. CONTRACTOR WILL REPLACE REMOVED CURB-AND-GUTTER, SIDEWALK, DRIVE PADS, AND PAVEMENT TO ELEVATIONS PRIOR TO REMOVAL UNLESS OTHERWISE INDICATED ON THE PLANS.

49 CONTRACTOR WILL CONSTRUCT TEMPORARY ASPHALT PAVEMENT AS DIRECTED BY THE COA ENGINEER TO PROVIDE ACCESS TO LOCAL BUSINESS, ETC. TEMPORARY PAVEMENT SHALL BE REMOVED AND DISPOSED OF PRIOR TO PLACEMENT OF FULL WIDTH PAVEMENT SECTION. TEMPORARY PAVING SHALL BE PER COA STD. DWG. 2415 AND PAID FOR PER COA STD. SPECIFICATIONS.

50 ALL EXPOSED CONCRETE SURFACES INCLUDING BUT NOT LIMITED TO RETAINING WALLS, SLOPE PAVING, STRUCTURES, AND CHANNEL LINING SHALL BE TINTED CONCRETE. TINTING SHALL BE SAN DIEGO BUFF AT ONE PUND OF COLOR PER SACK OF CEMENT.

51 PRE-WETTING OF THE EMBANKMENT FOUNDATION AND KEY TRENCH SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE EMBANKMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.

52 ALL ASPHALTIC CONCRETE SHALL BE MINIMUM 1800 LB. STABILITY AND COMPACTED TO 95% MODIFIED MARSHALL DENSITY UNLESS OTHERWISE NOTED ON THE PLANS.

53 ALL RIP-RAP MATERIAL USED ON THIS PROJECT SHALL BE A NATURAL ROCK MATERIAL CONFORMING TO THE SIZE AND MATERIAL PROPERTY REQUIREMENTS SET FORTH IN THE COA STANDARD SPECIFICATIONS. NO BROKEN CONCRETE OR RUBBLE WILL BE ACCEPTED.

54 CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.

55 ALL STRIPING ON C.O.A STREETS REMOVED OR DAMAGED MUST BE REPLACED WITH PLASTIC. STRIPING ERADICATION SHALL BE ACCOMPLISHED BY WATER BLASTING OR SURFACE PLANING OF THE ROADWAY TO A MAXIMUM DEPTH OF 0.25 INCHES (MAXIMUM) AND FOR A WIDTH EQUAL TO TWO TIMES THE WIDTH OF THE STRIPE OR MARKING TO BE REMOVED.

56 FOR STORM DRAIN CONSTRUCTION, RCP JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL. FINAL INSPECTION WILL DETERMINED JOINTS TO BE GROUTED FOR FULL INSPECTION ACCEPTANCE OF THE CONSTRUCTION.

57 THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION, INCLUDING WORKER HEALTH AND SAFETY ASPECTS, OF THESE IMPROVEMENTS.

58 DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL AND UNSUITABLE MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS. ALL COSTS INCURRED IN OBTAINING A FULLY REGULATED DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OF PAYMENT SHALL BE CONSIDERED.

59 ALL DISTURBED GROUND AREAS RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 1012, NATIVE GRASS SEEDING, AS CURRENTLY UPDATED.

EXISTING FEATURES LEGEND:

- EXISTING CHAIN-LINK FENCE
- EXISTING GAS LINE W/ VALVE (2" HPG, GV)
- EXISTING WATERLINE W/ VALVE (6" W, WV)
- EXISTING SANITARY SEWER LINE W/ MANHOLE (8" SAS)
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN (36" RCP)
- EXISTING UTILITY POLE
- EXISTING 1' CONTOUR (44)
- EXISTING 5' CONTOUR (4945)
- EXISTING CURB & GUTTER
- EXISTING CONCRETE
- EXISTING BUILDING LINE
- EXISTING EDGE OF PAVEMENT

NEW FEATURES LEGEND:

- CONSTRUCTION CENTERLINE
- NEW CBC BOX CULVERT
- NEW RCP STORM DRAIN
- NEW 1' CONTOUR (44)
- NEW 5' CONTOUR (5345)
- NEW CONCRETE
- POT HOLE LOCATION W/ NO. (1)

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS

STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 4102237.56

AS BUILT INFORMATION

CONTRACTOR Salts Bros. 3/07
WORK PLACED BY C.S. DATE 3/07
INSPECTOR'S ACCEPTANCE BY COA DATE 3/07
FIELD VERIFICATION BY C.S. DATE 3/07
DRAWING CORRECTED BY S.E.C. DATE 3/07
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

ENGINEERS' SEAL

GEORGE NEMER
NEW MEXICO
12284
REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DATE JULY 2005
		DESIGNED BY GN	DATE JULY 2005
		DRAWN BY KSH	DATE JULY 2005
		CHECKED BY GN	

102035B
Smith Engineering Company
A Full Service Engineering Company
2201 San Pedro Boulevard, N.E., Bldg. #4, Suite 200 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
GENERAL NOTES & LEGEND

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.
	AUG 2 2005			

City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	2	14

CORONA AVENUE

STA 10+00.00
N= 1521182.22
E= 405948.55

S 89°36'24" E
841.85'

PROJECT CENTERLINE

PC 18+41.85
N=1521176.44
E=406790.37

PI 19+70.20
D 31°18'21"
R 450.00
T 128.35
L 250.06

PT 20+91.91
N=1521107.70
E=407027.59

S 57°46'03" E
346.08'

PC 24+37.98
N=1520923.54
E=407340.03

PI 25+66.39
D 31°18'06"
R 450.00
T 128.40
L 250.16

PT 26+88.14
N=1520823.18
E=407567.05

S 89°37'06" E
111.86'

STA 27+00.00
TIE TO CP-16
N 63°30'40" W
143.91'

CP-16 (MAG-NAIL IN CONCRETE)
N = 1520788.91'
E = 407697.71'
ELEV = 5389.91'

CP-16 TIE TO 1-B20
N 37°33'14" E
4167.05'

STA 28+00.00
N= 1520852.43
E= 407668.90

EXISTING POLICE & FIRE STATION

WYOMING BOULEVARD

KINNEY DAM

CARMEL AVENUE

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00

5330 5335 5340 5345 5350 5355 5360 5365 5370 5375 5380 5385

60' 30' 0 60' 120'
SCALE: 1" = 60'

AS BUILT INFORMATION
CONTRACTOR Sells Bro. 3/07
WORK VERIFIED BY C.S. DATE 3/07
INSPECTOR'S ACCEPTANCE BY C.A DATE 3/07
VERIFICATION BY C.S DATE 3/07
CORRECTED BY S.E.C. DATE 3/07
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE	STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
			ESTABLISHING AGENCY: ACS STANDARD BRASS CAP
			IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT
			OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
			SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
			PLANE COORDINATES: N = 1524092.46, E = 410237.56

ENGINEERS SEAL
GEORGE NEMER NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS
		REVISIONS
	DATE	DESIGN
DESIGNED BY	GN	JULY 2005
DRAWN BY	KSH	JULY 2005
CHECKED BY	GN	JULY 2005

102035B
Smith Engineering Company
A Full Service Engineering Company
5971 San Pedro Boulevard, N.E., Bldg. #4, Suite 300 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

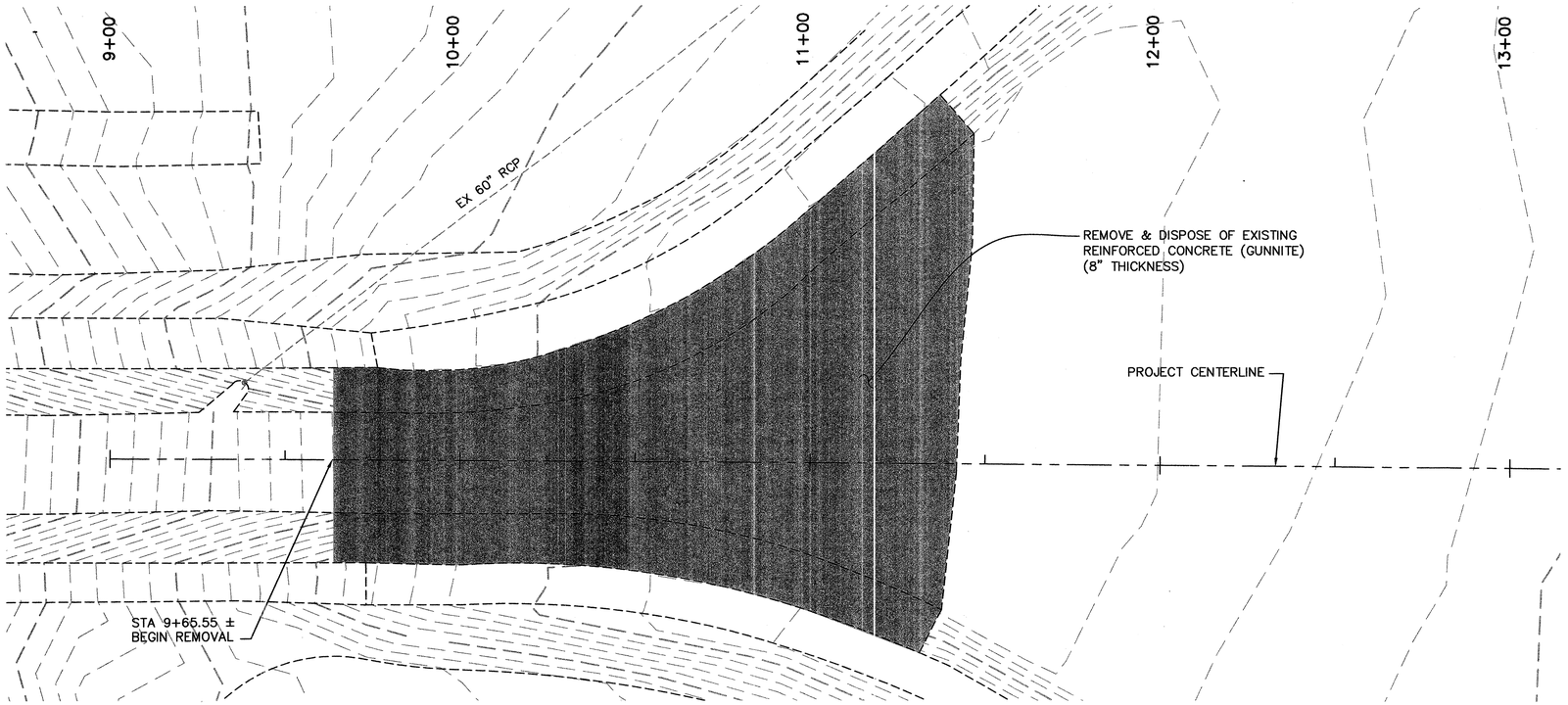
TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
EXISTING SITE & SURVEY DATA

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.

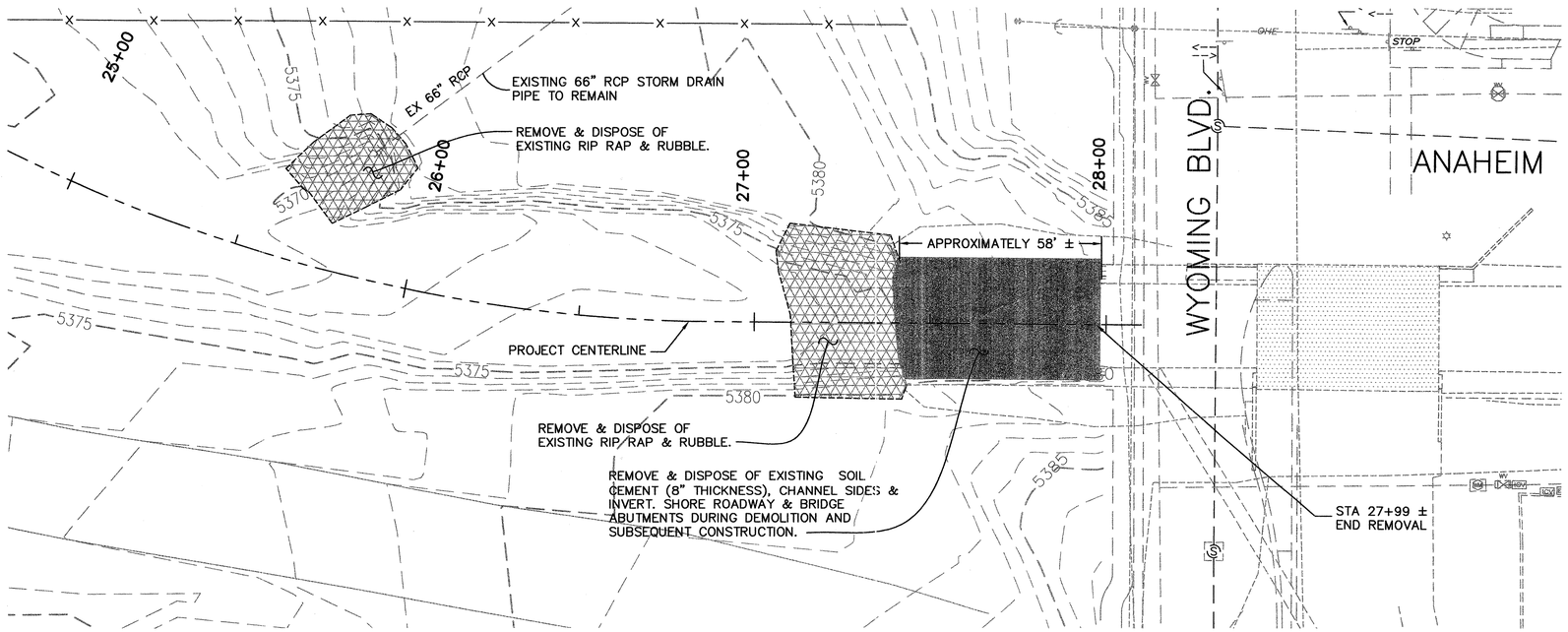
City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	3	14

GENERAL NOTES:

1. PROVIDE FULL DEPTH SAW CUT ALONG LINE OF REMOVAL OF REINFORCED CONCRETE (GUNNITE).



REMOVAL PLAN EAST END OF CHANNEL



REMOVAL PLAN WEST END OF CHANNEL

SCALE: 1" = 20'

AS BUILT INFORMATION
CONTRACTOR Sells Bro. 3/07
WORK PERFORMED BY CS DATE 3/07
INSPECTOR'S ACCEPTANCE BY CoA DATE 3/07
FIELD VERIFICATION BY CS DATE 3/07
DRAWINGS CORRECTED BY SEC DATE 3/07

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 410237.56

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL
GEORGE NEMER NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
DESIGNED BY	GN	DATE	JULY 2005
DRAWN BY	KSH	DATE	JULY 2005
CHECKED BY	GN	DATE	JULY 2005

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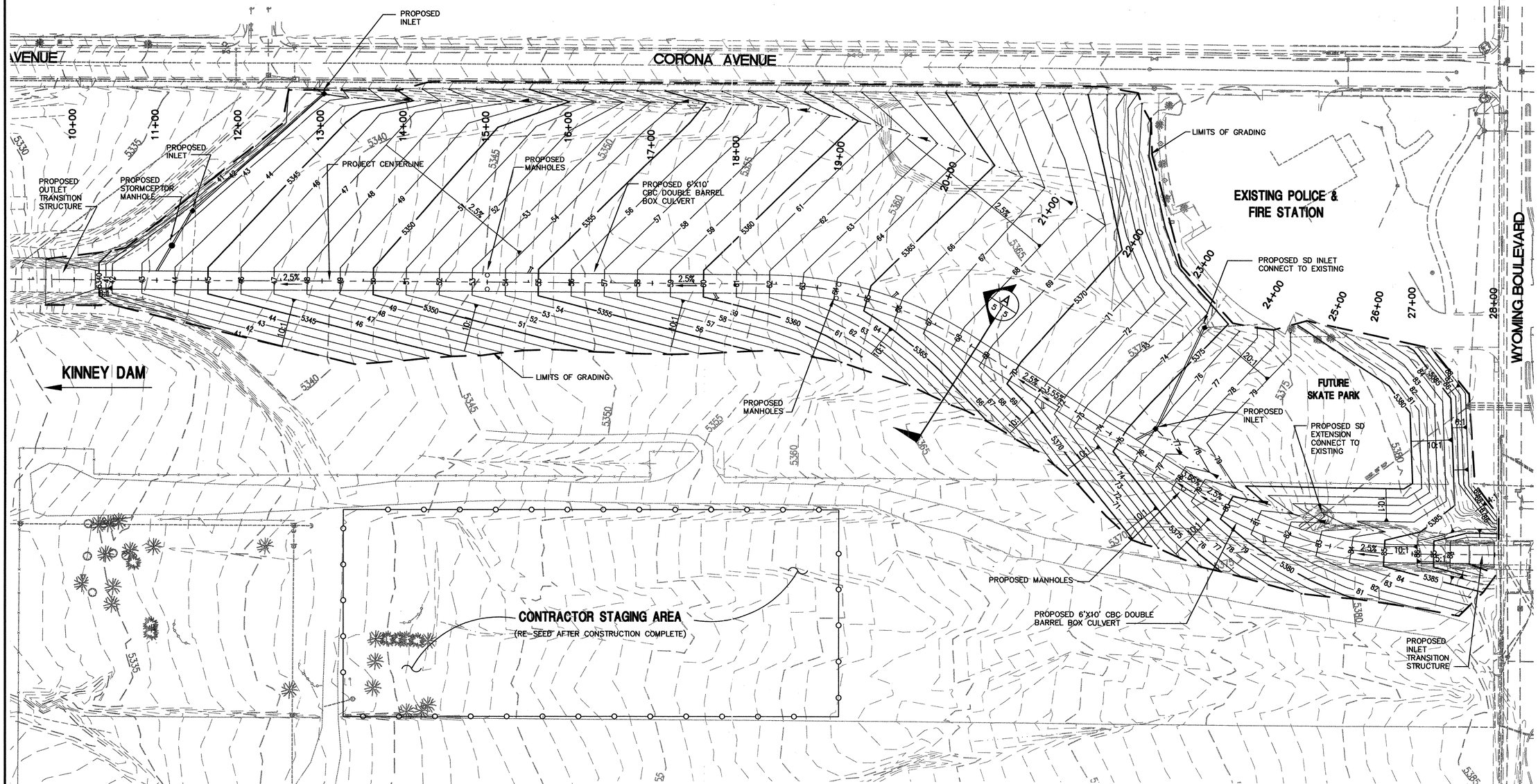
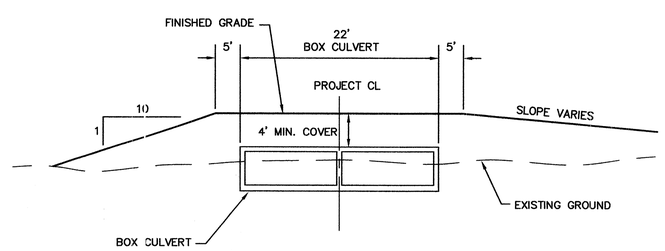
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
REMOVAL PLAN

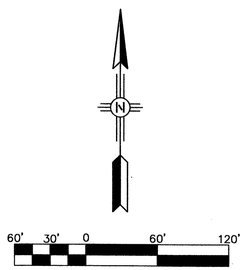
Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.

City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	4	14





TYPICAL GRADING SECTION (A 5 5)
N.T.S.



AS BUILT INFORMATION
CONTRACTOR Sallis Bros. 3/07
MARKED BY C.S. DATE 3/07
INSPECTORS ESTABLISHING AGENCY: ACS STANDARD BRASS CAP DATE 3/07
ACCEPTANCE BY C.O.A. DATE 3/07
VERIFICATION BY C.S. DATE 3/07
CORRECTED BY S.E.C. DATE 3/07
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP
IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 410237.56

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEERS SEAL
GEORGE NEUMAN NEWMAN 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY GN	DATE JULY 2005
		DRAWN BY KSH	DATE JULY 2005
		CHECKED BY GN	DATE JULY 2005

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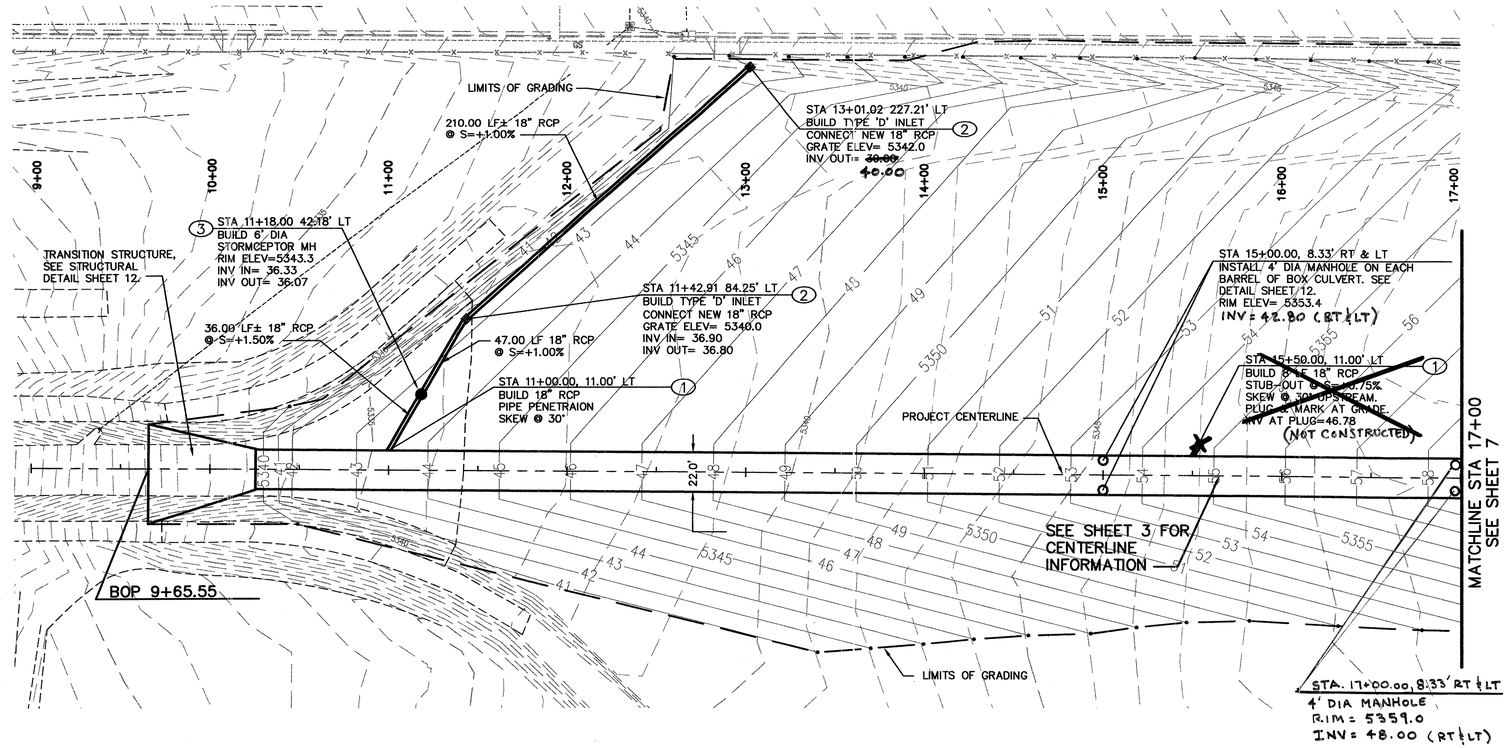
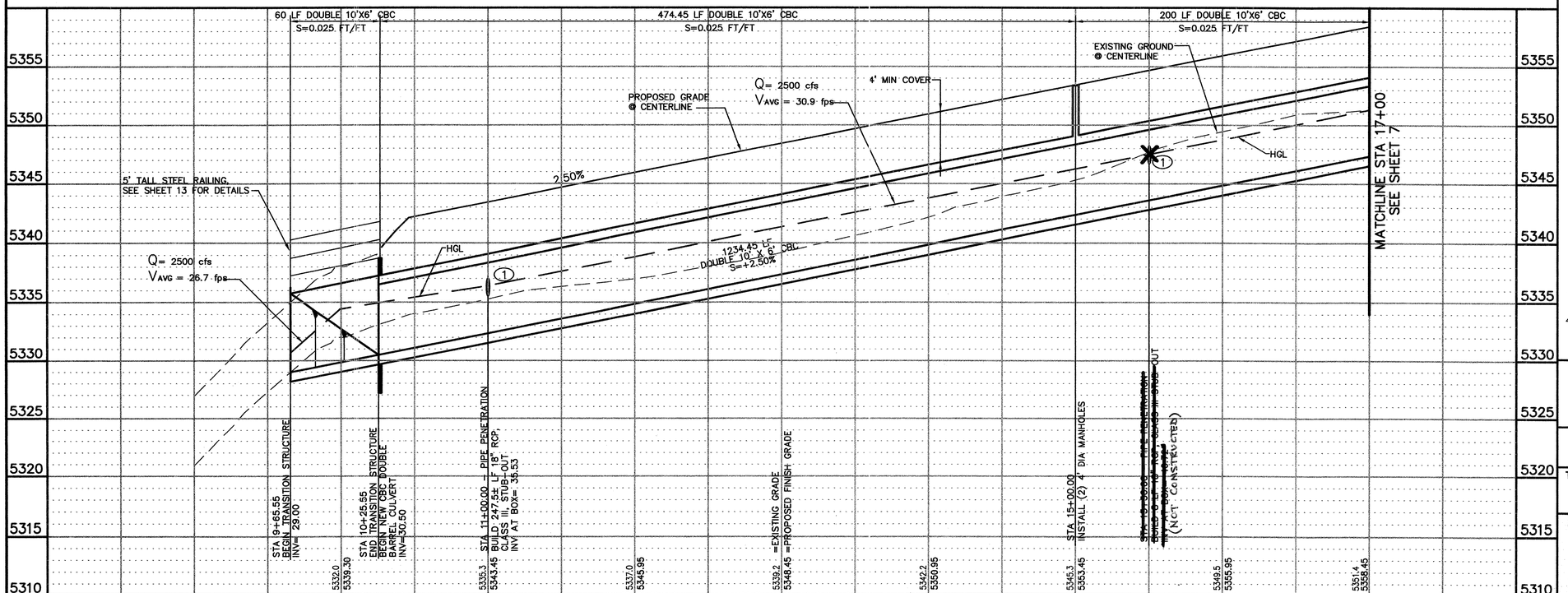
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
GRADING & DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.

City Project No. 7138.92 | Zone Map No. C-19 | Sheet 5 | Of 14





GENERAL NOTES:

1. ALL CONCRETE PIPES LARGER THAN 24" SHALL BE CLASS IV.

KEYED NOTES: ⬭

1. 18" PIPE PENETRATION. SEE PIPE PENETRATION DETAIL SHEET 12.
2. BUILD TYPE 'D' INLET PER COA STD DWG #2206.
3. BUILD 6' DIA STORMCEPTOR MANHOLE. CSR HYDRO CONDUIT, STC 900 PRECAST CONCRETE STORMCEPTOR, (900 GAL. CAPACITY) OR ACCEPTED EQUAL.

AS BUILT INFORMATION

BENCH MARKS

STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 410237.56

	CONTRACTOR	WORKED BY	INSPECTOR'S FIELD CHANGE	VERIFICATION BY	CORRECTED BY
	Sais Bro.	C.S	C.O.A	C.S.	S.E.C.
DATE	3/07	3/07	3/07	3/07	3/07

MICRO-FILM INFORMATION

RECORDED BY ____ DATE ____
NO. ____

SURVEY INFORMATION

NO.	BY	DATE	FIELD NOTES

ENGINEERS SEAL

GEORGE NEMECIO, NEW MEXICO, T2284, REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	BY	REMARKS
			REVISIONS
			DESIGN
DESIGNED BY	GN	DATE	JULY 2005
DRAWN BY	KSH	DATE	JULY 2005
CHECKED BY	GN	DATE	JULY 2005

SCALE: 1" = 5'

SCALE: 1" = 40'

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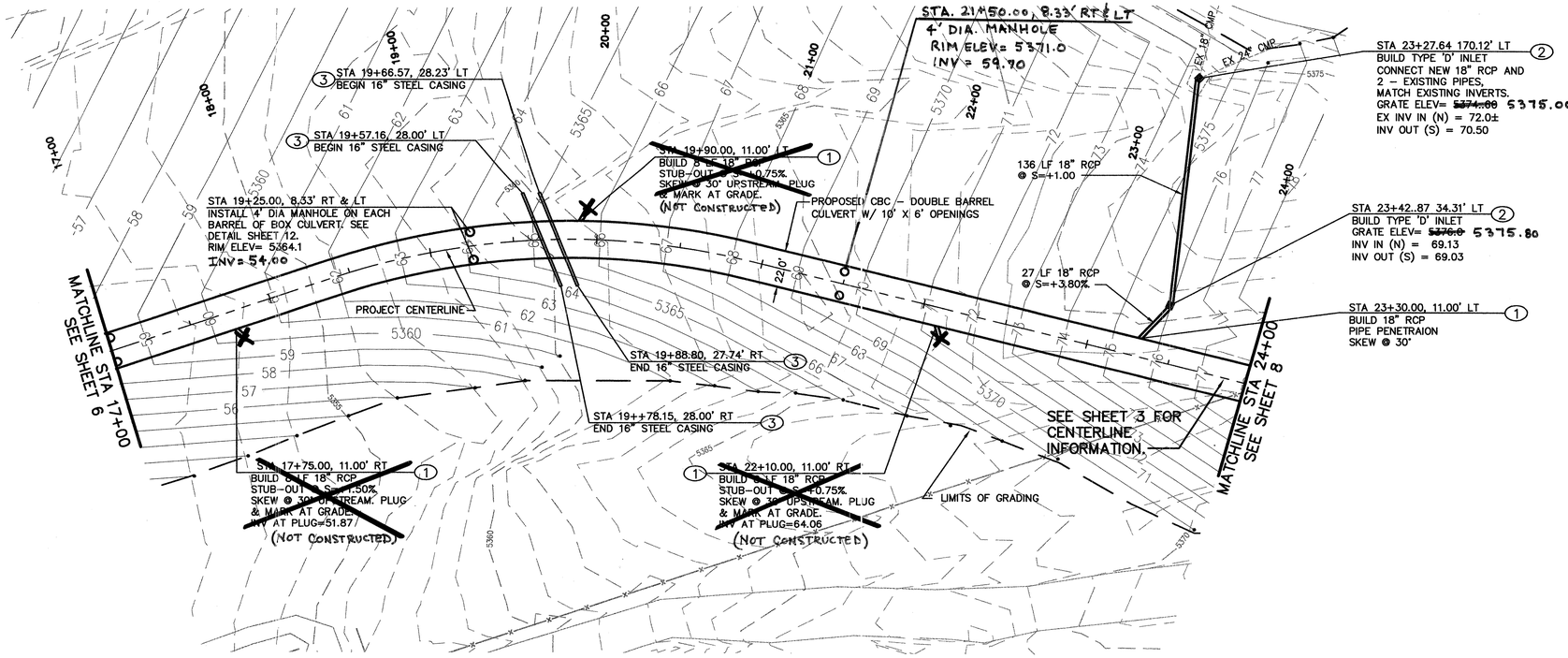
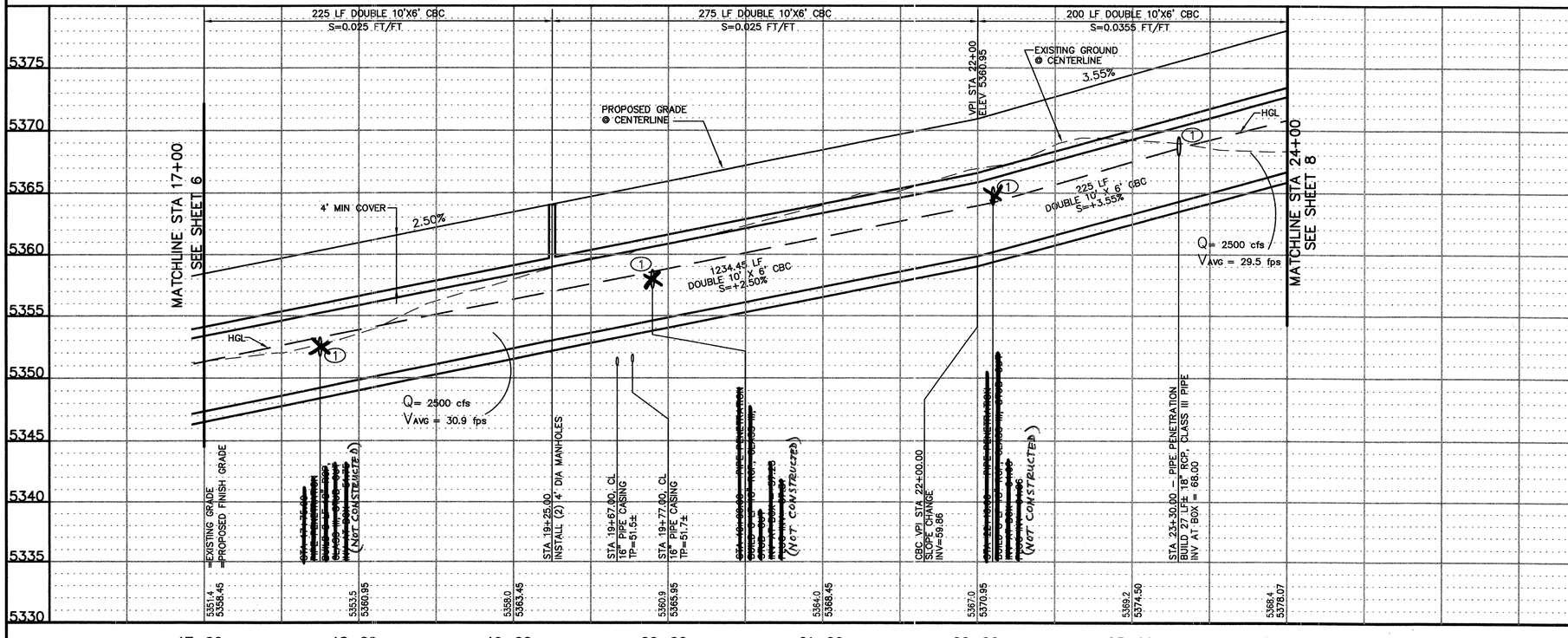
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
CBC PLAN & PROFILE: STA 9+65.55 TO 17+00

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.

City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	6	14





GENERAL NOTES:

1. ALL CONCRETE PIPE LARGER THAN 24" SHALL BE CLASS IV.

KEYED NOTES: ⬭

1. 18" PIPE PENETRATION. SEE PIPE PENETRATION DETAIL SHEET 12.
2. BUILD TYPE 'D' INLET PER COA STD DWG #2206.
3. CAP END AND MARK LOCATION AT GRADE.

AS BUILT INFORMATION
CONTRACTOR Salls Bro. 3/07
WORK OVERSEEN BY C.S. DATE 3/07
INSPECTOR'S ACCEPTANCE BY COA DATE 3/07
FIELD VERIFICATION BY C.S DATE 3/07
DRAWING CORRECTED BY S.E.C. DATE 3/07
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP
IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT
OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 4102237.56

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEERS SEAL
GEORGE NEMER
NEW MEXICO
12284
REGISTERED PROFESSIONAL ENGINEER
6-24-05

REVISIONS
NO. DATE REMARKS BY
DESIGNED BY GN DATE JULY 2005
DRAWN BY KSH DATE JULY 2005
CHECKED BY GN DATE JULY 2005

SCALE: 1" = 40'
SCALE: 1" = 5'

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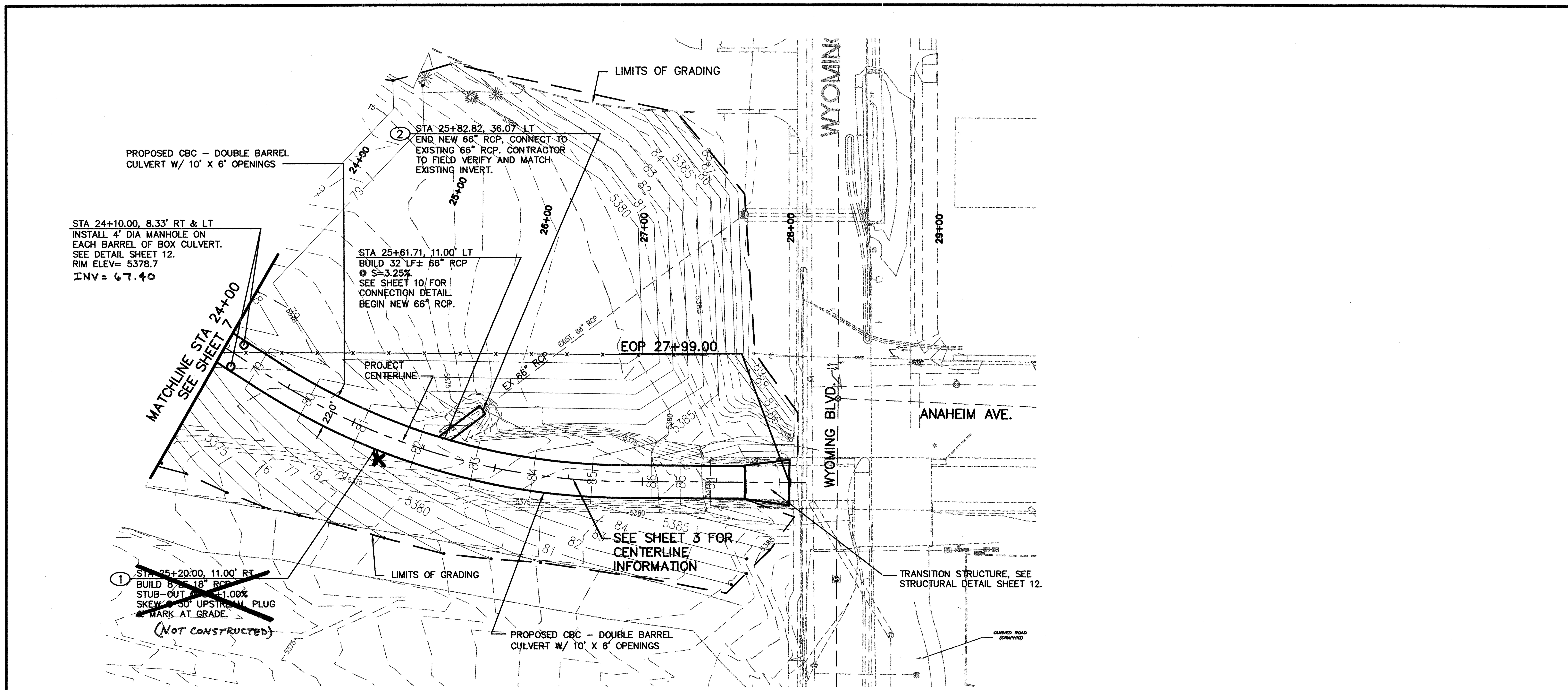
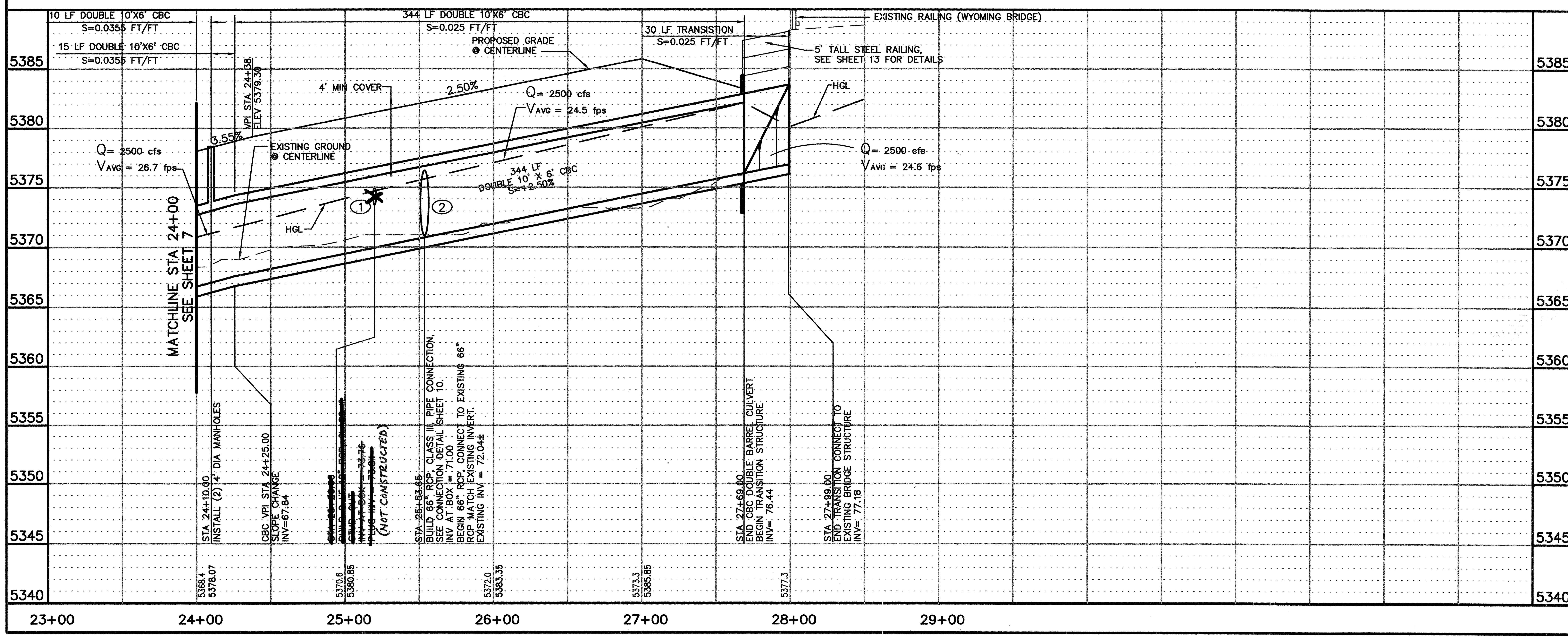
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
CBC PLAN & PROFILE: STA 17+00 TO 24+00

Design Review Committee | City Engineer Approval | Last Design Update | No. / Day / Yr. | No. / Day / Yr.

City Project No. 7138.92 | Zone Map No. C-19 | Sheet 7 Of 14





GENERAL NOTES:

1. ALL CONCRETE PIPE LARGER THAN 24" SHALL BE CLASS IV.

KEYED NOTES: ◯

1. 18" PIPE PENETRATION. SEE 18" PIPE PENETRATION DETAIL SHEET 12.
2. 66" PIPE CONNECTION. SEE 66" PIPE CONNECTION DETAIL SHEET 12.

AS BUILT INFORMATION

CONTRACTOR Salls Bro. 3/07
WORK STAKED BY CS DATE 3/07
INSPECTOR'S ACCEPTANCE BY CoA DATE 3/07
FIELD VERIFICATION BY CS DATE 3/07
DRAWINGS CORRECTED BY SSC DATE 3/07

MICRO-FILM INFORMATION

RECORDED BY DATE

NO.

BENCH MARKS

STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP
IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 410237.56

SURVEY INFORMATION

NO.	FIELD NOTES BY	DATE

ENGINEERS SEAL

GEORGE NEMETH, NEW MEXICO, 12284, REGISTERED PROFESSIONAL ENGINEER
6-24-05

SCALE: 1" = 5'

40' 20' 0 40' 80'
SCALE: 1" = 40'

102035B
Smith Engineering Company
A Full Service Engineering Company

REVISIONS

NO.	DATE	BY	REMARKS

DESIGN		DATE
DESIGNED BY	GN	JULY 2005
DRAWN BY	KSH	JULY 2005
CHECKED BY	GN	

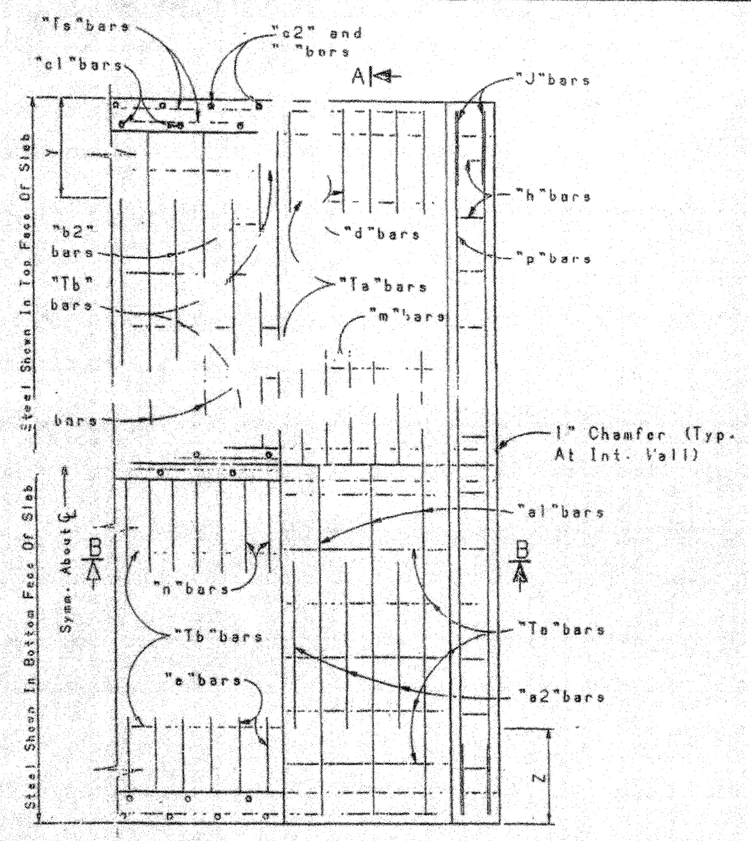
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
CBC PLAN & PROFILE: STA 24+00 TO 27+99

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
AUG - 4 2005	AUG - 4 2005	Last Design Update	

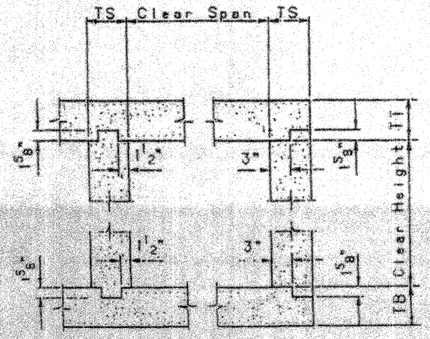
City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	8	14

DESIGNED BY: H.T. 10/60 CHECKED BY: R.A. 5/93
DETAILED BY: J.A.K. 2/93 CHECKED BY: S.J.M. 7/93
PLOT DATE: 12/2/93

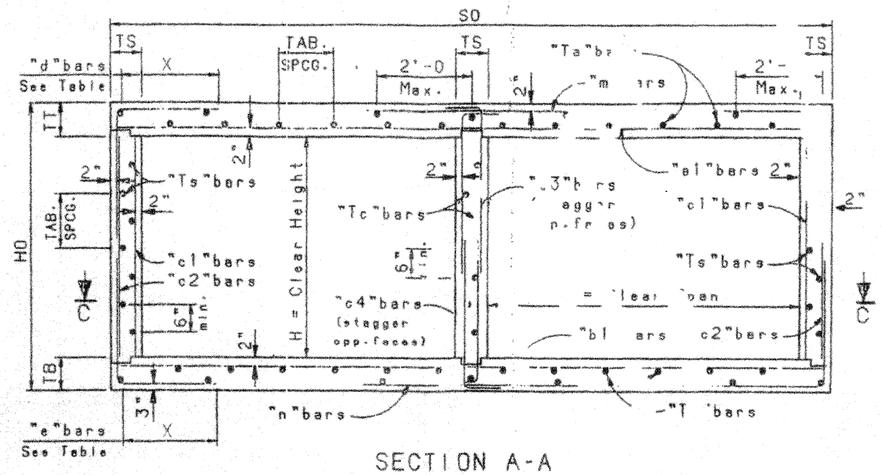


PART SECTION C-C

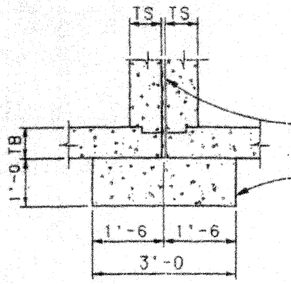
PART PLAN TOP SLAB



CONSTRUCTION JOINT DETAIL



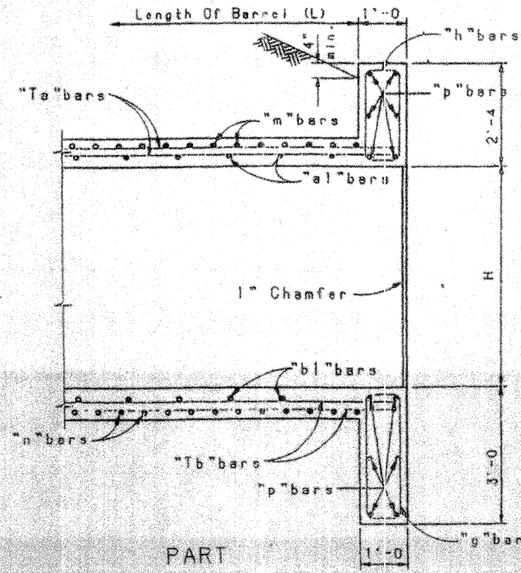
SECTION A-A



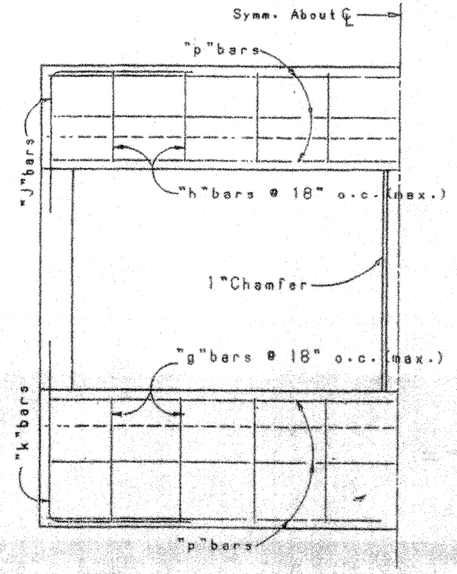
½" PREFORMED BITUMINOUS JOINT FILLER BETWEEN ADJACENT UNITS AND EXTENDING BETWEEN BARRELS, PARAPETS, AND CUT-OFF WALLS.

FOUNDATION BLOCK TO BE PLACED IN NEAT EXCAVATION, EXTEND FOR ENTIRE LENGTH OF BARREL UNDER JOINT BETWEEN UNITS. PLACE ONE LAYER OF TAR PAPER OVER ENTIRE TOP SURFACE OF FOUNDATION BLOCK. CONCRETE QUANTITY 0.111 CU. YDS. PER LIN. FT OF BLOCK.

JOINT DETAIL FOR MULTIPLE UNIT BOXES



PART SECTION B-B



PART END ELEVATION

GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "A". CHAMFER ALL EXPOSED EDGES 3/4".

⚠ 2 **ALL REINFORCING STEEL TO BE DEFORMED BARS, CONFORMING TO AASHTO M-31, GRADE 60. ALL DIMENSIONS REFER TO THE CENTERLINE OF BAR.**

3. "T" BARS MAY BE SPLICED WHEN NECESSARY BY LAPPING AT LEAST 20 BAR DIAMETERS. PAY WEIGHT FOR REINFORCING STEEL DOES NOT INCLUDE SPLICES. COST OF THE SPLICE MATERIAL TO BE INCLUDED IN UNIT PRICE BID FOR REINFORCING STEEL.

4. VOLUME OF CONCRETE = (L) x (CONCRETE QUANTITY/LIN. FT.) PLUS CONCRETE AT ENDS.

5. WEIGHT OF REINFORCING STEEL = (L) x (WEIGHT OF REINF./LIN.FT.) PLUS WEIGHT AT ENDS.

6. PLACE "Ta"BARS ON "a"BARS AND "Tb"BARS UNDER "b"BARS, SPACED AS SHOWN IN THE TABLE. THE REMAINING "Ta"BARS, AND "Tb"BARS ARE TO BE PLACED ADJACENT TO THE "d", "e", "m", AND "n"BARS AS INDICATED IN "SECTION A-A".

7. PLACE "Ta"BARS NEXT TO "c1"BARS, SPACED AS SHOWN IN THE TABLE. THE REMAINING "Ts"BARS TO BE PLACED IN SIDEWALL NEXT TO "c2", "d", AND "e"BARS. WHEN "c1"BARS ARE NOT REQUIRED PLACE ALL "Ts"BARS NEXT TO "c2", "d", AND "e"BARS.

8. "COVER" IS HEIGHT OF FILL FROM TOP OF BOX TO FINISHED GRADE.

DESIGN DATA

DESIGN ACCORDING TO A.A.S.H.O. SPECIFICATIONS, 1957.
LIVE LOAD: H20-S16-44 & INTERSTATE ALTERNATE LOADING
WEIGHT OF FILL ON TOP OF BOX: 84#/CU.FT.
HORIZONTAL EARTH PRESSURE: 30#/CU.FT., 2' SURCHARGE
DESIGN STRESSES: f'c = 3000 psi, fs = 1200 psi.
fs = 20,000 psi, n = 10.

NO.	DESCRIPTION	DATE	BY
6			
5			
4			
3			
2			
1	REVISED NOTE #2	6-7-95	PH

REVISIONS (OR CHANGE NOTICES)

NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONCRETE BOX CULVERT BARRELS
DOUBLE OPENING - NORMAL
ALL DESIGNS

GENERAL DATA

LAYOUT BY
DRAWN BY
CHECKED BY
APPROVAL RECOMMENDED: ENGINEER — DATE
APPROVED: DIRECTOR OF DIVISION — DATE

SERIAL CB-32 SHEET 1 OF 5

RECORD DRAWING

BRIDGE#1/STANDARDS/BRIDGE/STANDARDS#14

N. M. P. ..... SHEET .....

DESIGNED BY: H.T. 10/60 CHECKED BY: R.A. 5/93 PLOT DATE: 7/20/93
DETAILED BY: J.A.K. 2/93 CHECKED BY: S.J.M. 7/93

CLEAR SPAN	CLEAR HEIGHT	DIMENSIONS							QUANTITIES				REINFORCING BARS															
									PER L.F. OF BARREL		AT ONE END ✻		"a1"			"a2"			"b1"			"b2"			"c1"		"c2"	
		TT	TS	IB	SO	HO	Y	Z	REINF. STEEL POUNDS PER L.F.	CONCRETE CU. YDS. PER L.F.	REINF. STEEL POUNDS	CONCRETE CU. YDS.	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	SPACING	SIZE	SPACING
4	2	6½"	6"	7"	9'-6	3'-1½	----	----	77.2	0.507	239	1.99	#6	9'-3	9"	--	NONE	--	#4	9'-3	12"	--	NONE	--	NONE		NONE	
	3	7"	6"	7"	9'-6	4'-2	----	----	80.9	0.577	245	2.05	#6	9'-3	9"	--	NONE	--	#4	9'-3	12"	--	NONE	--	NONE		NONE	
	4	7"	6"	7"	9'-6	5'-2	----	----	86.4	0.633	241	2.10	#6	9'-3	9"	--	NONE	--	#4	9'-3	12"	--	NONE	--	NONE		NONE	
6	2	7½"	6"	7½"	13'-6	3'-3	1'-4	----	116.2	0.736	316	2.78	#6	13'-3	7½"	--	NONE	--	#4	13'-3	13"	#4	4'-3	13"	NONE		NONE	
	3	7½"	6"	7½"	13'-6	4'-3	1'-4	----	120.3	0.792	322	2.84	#6	13'-3	7½"	--	NONE	--	#4	13'-3	13"	#4	4'-3	13"	NONE		NONE	
	4	7½"	6"	7½"	13'-6	5'-3	1'-4	----	123.4	0.847	331	2.89	#6	13'-3	7½"	--	NONE	--	#4	13'-3	13"	#4	4'-3	13"	NONE		NONE	
	5	7½"	6"	7½"	13'-6	6'-3	1'-4	----	132.5	0.903	340	2.95	#6	13'-3	7"	--	NONE	--	#4	13'-3	13"	#4	4'-3	13"	NONE		NONE	
	6	7½"	6"	7½"	13'-6	7'-3	1'-4	----	138.4	0.958	374	3.01	#6	13'-3	7"	--	NONE	--	#4	13'-3	13"	#4	4'-3	13"	NONE		NONE	
8	4	8"	6"	8½"	17'-6	5'-4½	1'-6	1'-3	176.5	1.113	553	3.68	#6	17'-3	18"	#8	6'-6	18"	#4	17'-3	11"	#4	6'-0	11"	NONE		NONE	
	5	8"	6"	8½"	17'-6	6'-4½	1'-4	0'-9	193.7	1.169	559	3.74	#6	17'-3	14"	#7	7'-6	14"	#4	17'-3	14"	#5	6'-3	14"	NONE		NONE	
	6	8"	6"	8½"	17'-6	7'-4½	1'-4	----	208.3	1.225	571	3.80	#7	17'-3	8"	--	NONE	--	#4	17'-3	10"	#4	6'-6	10"	NONE		#4	10½"
	7	8"	7"	8½"	17'-9	8'-4½	1'-6	1'-0	224.5	1.358	608	3.97	#6	17'-6	14"	#7	7'-6	14"	#4	17'-6	14"	#5	6'-3	14"	#4	18"	#5	15"
	8	8"	8"	9"	18'-0	9'-5	1'-8	1'-5	229.3	1.537	626	4.16	#7	17'-9	18"	#7	6'-6	18"	#4	17'-9	12"	#4	6'-0	12"	#4	18"	#5	15"
10	4	9"	6½"	10"	21'-7½	5'-7	1'-8	1'-6	240.9	1.509	796	4.51	#5	21'-3	8½"	#5	8'-0	8½"	#4	21'-3	12"	#5	7'-9	12"	NONE		NONE	
	5	9"	6"	10"	21'-6	6'-7	1'-6	1'-6	252.9	1.539	828	4.53	#6	21'-3	12"	#6	8'-0	12"	#4	21'-3	12"	#5	8'-0	12"	NONE		NONE	
	6	9"	6"	10"	21'-6	7'-7	1'-6	1'-6	251.9	1.594	827	4.59	#5	21'-3	10½"	#6	8'-0	10½"	#4	21'-3	12"	#5	8'-0	12"	NONE		NONE	
	7	9"	7"	10"	21'-9	8'-7	1'-6	1'-0	285.4	1.729	855	4.76	#6	21'-6	14"	#7	8'-9	14"	#5	21'-6	14"	#5	8'-0	14"	NONE		#4	12"
	8	9"	8"	10"	22'-0	9'-7	1'-6	----	289.8	1.883	881	4.94	#7	21'-9	9"	--	NONE	--	#5	21'-9	18"	#6	7'-9	18"	#4	18"	#4	12"
	9	9"	8"	10"	22'-0	10'-7	1'-6	----	312.2	1.957	919	5.04	#7	21'-9	9"	--	NONE	--	#5	21'-9	15"	#5	8'-3	15"	#4	17"	#4	13"
	10	9"	9"	10"	22'-3	11'-7	1'-6	----	325.9	2.138	884	5.23	#7	22'-0	9"	--	NONE	--	#5	22'-0	18"	#6	8'-6	18"	#4	15"	#4	10"
	11	9"	9"	10"	22'-3	12'-7	1'-6	1'-0	332.7	2.221	953	5.39	#5	22'-0	11"	#6	8'-9	11"	#5	22'-0	14"	#5	8'-3	14"	#4	12"	#4	12"
	12	9½"	9"	10"	22'-3	13'-7½	1'-6	1'-9	373.2	2.339	954	5.54	#5	22'-0	14"	#7	8'-0	14"	#4	22'-0	15"	#6	8'-3	15"	#5	14"	#4	8"
12	6	10½"	6½"	11½"	25'-7½	7'-10	2'-2	1'-9	304.7	2.101	1127	5.43	#4	25'-3	9"	#6	9'-6	9"	#5	25'-3	12"	#5	8'-9	12"	NONE		NONE	
	8	10½"	8"	11½"	26'-0	9'-10	2'-2	1'-11	342.6	2.358	1203	5.74	#5	25'-9	13"	#7	9'-6	13"	#5	25'-9	12"	#5	9'-0	12"	#4	18"	NONE	
	10	10½"	9"	11½"	26'-3	11'-10	2'-0	2'-0	372.5	2.616	1254	6.05	#5	26'-0	13"	#7	9'-6	13"	#5	26'-0	12"	#5	9'-3	12"	#4	12"	#5	12"
	12	10½"	9"	11½"	26'-3	13'-10	1'-10	2'-0	423.4	2.782	1360	6.33	#5	26'-0	13"	#7	9'-6	13"	#5	26'-0	18"	#7	9'-9	18"	#5	16"	#5	13"
14	8	12½"	8"	13"	30'-0	10'-1½	3'-1	2'-2	428.9	2.954	1686	6.53	#5	29'-9	12"	#7	11'-3	12"	#5	29'-9	13"	#6	9'-3	13"	#4	18"	NONE	
	10	12"	9"	13"	30'-3	12'-1	3'-1	2'-2	456.1	3.167	1729	6.84	#5	30'-0	12"	#7	11'-3	12"	#5	30'-0	12"	#6	9'-3	12"	#4	18"	#6	11½"
	12	12"	9"	13"	30'-3	14'-1	3'-1	2'-2	499.9	3.334	1777	7.12	#5	30'-0	12"	#7	11'-3	12"	#5	30'-0	10½"	#5	9'-3	10½"	#4	[illegible]	#6	10"
	14	12"	10"	13"	30'-6	16'-1	3'-1	2'-2	553.1	3.650	1833	7.59	#4	30'-3	10½"	#7	11'-3	10½"	#5	30'-3	10½"	#5	9'-3	10½"	#5	12"	#6	10½"

CLEAR SPAN	CLEAR HEIGHT	REINFORCING BARS																															
		"c3"			"c4"			"m"			"n"			"d"				"e"				"Ta"			"Tb"			"Tc"			"Ts"			g,h
		SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	SIZE	LENGTH	"X"	SPACING	SIZE	LENGTH	"X"	SPACING	NO.	SIZE	SPACING	NO.	SIZE	SPACING	NO.	SIZE	SPACING	NO.	SIZE	SPACING	NO. OF EA. AT 1 END
4	2	#4	2'-3	12"	#4	2'-3	12"	#5	4'-6	9"	#5	4'-6	12"	#5	3'-9	1'-7	12"	#4	4'-3	1'-6	12"	13	#4	18"	13	#4	18"	3	#4	18"	4	#4	18"	6
	3	#4	2'-9	12"	#4	2'-9	12"	#5	4'-6	9"	#5	4'-6	12"	#5	4'-3	1'-7	12"	#4	4'-9	1'-6	12"	13	#4	18"	13	#4	18"	4	#4	22"	4	#4	22"	6
	4	#4	3'-3	12"	#4	3'-3	12"	#5	4'-6	9"	#5	4'-6	12"	#4	4'-6	1'-7	9"	#4	5'-3	1'-6	9"	13	#4	18"	13	#4	18"	5	#4	18"	6	#4	18"	6
6	2	#5	2'-6	14"	#5	2'-6	14"	#5	4'-3	6½"	#5	5'-3	6½"	#5	3'-9	1'-10	8½"	#4	3'-6	1'-8	8½"	16	#4	18"	16	#4	18"	3	#4	18"	4	#4	18"	8
	3	#5	3'-3	14"	#5	2'-9	14"	#6	4'-3	9½"	#5	5'-6	6½"	#5	4'-3	1'-9	9"	#4	4'-0	1'-8	9"	16	#4	18"	16	#4	18"	4	#4	18"	4	#4	22"	8
	4	#5	4'-3	15"	#5	3'-0	15"	#6	4'-3	10"	#5	5'-6	6½"	#5	4'-9	1'-9	10"	#4	4'-6	1'-8	10"	16	#4	18"	16	#4	18"	5	#4	18"	6	#4	18"	8
	5	#5	5'-3	15"	#5	3'-0	15"	#6	4'-3	10"	#5	5'-6	6½"	#5	5'-3	1'-9	10"	#4	5'-3	1'-9	10"	16	#4	18"	16	#4	18"	7	#4	18"	8	#4	18"	8
	6	#5	6'-3	15"	#5	3'-0	15"	#6	4'-3	10"	#5	5'-6	6½"	#6	6'-0	1'-9	14"	#5	5'-9	1'-9	14"	16	#4	18"	16	#4	18"	7	#4	18"	8	#4	18"	8
8	4	#6	3'-9	16"	#6	3'-9	16"	#6	5'-6	7"	#6	6'-9	7"	#6	5'-6	1'-11	11"	#5	4'-6	1'-10	11"	24	#4	15"	22	#4	15"	5	#4	18"	6	#4	18"	12
	5	#5	5'-0	16"	#5	3'-0	16"	#6	6'-3	7½"	#6	7'-9	7"	#6	5'-9	2'-0	11"	#5	5'-9	2'-0	11"	27	#4	15"	25	#4	16"	7	#4	18"	9	#4	18"	12
	6	#5	6'-0	16"	#5	3'-0	16"	#6	7'-0	8"	#6	7'-9	7"	#6	4'-6	2'-1	10½"	#5	4'-0	1'-10	10½"	29	#4	14"	25	#4	16"	9	#4	18"	10	#4	18"	12
	7	#5	7'-0	15"	#5	3'-0	15"	#6	7'-0	7½"	#7	7'-9	9"	#6	5'-3	2'-6	11"	#6	5'-3	2'-6	15"	29	#4	14"	25	#4	16"	9	#4	18"	16	#4	18"	12
	8	#5	8'-3	12"	#5	3'-0	12"	#6	7'-3	7½"	#6	6'-9	7½"	#6	6'-3	2'-11	12"	#6	6'-3	2'-11	15"	29	#4	14"	25	#4	18"	11	#4	18"	20	#4	18"	12
10	4	#6	4'-9	16"	#6	3'-0	16"	#8	9'-0	10"	#8	8'-6	10"	#6	5'-3	2'-0	10"	#5	5'-3	2'-0	10"	32	#4	12"	32	#4	12"	5	#4	18"	6	#4	18"	14
	5	#5	5'-6	11½"	#5	3'-0	11½"	#7	8'-3	7½"	#7	8'-3	8"	#7	6'-0	2'-3	12"	#6	6'-0	2'-3	12"	32	#4	12"	32	#4	12"	7	#4	18"	8	#4	18"	14
	6	#4	6'-0	7½"	#4	3'-0	7½"	#7	8'-3	7½"	#7	8'-3	7½"	#7	5'-3	2'-5	12"	#6	8'-3	2'-6	12"	29	#4	14"	25	#4	18"	9	#4	18"	10	#4	18"	14
	7	#5	7'-3	9½"	#5	3'-0	8½"	#7	8'-9	7½"	#7	7'-9	7½"	#7	7'-0	3'-0	12"	#6	6'-0	2'-9	12"	24	#5	18"	24	#4	18"	9	#4	18"	10	#4	18"	14
	8	#4	8'-0	8"	#4	3'-0	8"	#7	9'-0	8"	#7	7'-0	8"	#7	7'-6	3'-6	12"	#6	6'-0	2'-9	12"	25	#5	18"	24	#4	18"	11	#4	18"	20	#4	18"	14
	9	#5	9'-3	12"	#5	3'-0	12"	#7	9'-3	8"	#7	7'-9	7½"	#7	7'-6	3'-6	11½"	#7	6'-6	3'-0	13"	25	#5	18"	24	#4	18"	12	#4	18"	24	#4	18"	14
	10	#4	10'-0	9"	#4	3'-0	9"	#8	9'-6	10½"	#8	8'-6	9½"	#6	8'-0	3'-9	9"	#6	7'-0	3'-3	10"	25	#5	18"	24	#4	18"	13	#4	18"	28	#4	18"	14
	11	#5	11'-3	15"	#5	3'-0	15"	#7	10'-0	7½"	#7	8'-3	7"	#7	7'-6	3'-6	12"	#7	6'-9	3'-3	12"	25	#5	18"	24	#4	18"	15	#4	18"	30	#4	18"	14
	12	#7	13'-0	14"	#7	3'-3	14"	#7	10'-3	8"	#7	8'-3	7"	#6	7'-3	3'-4	8"	#6	7'-3	3'-4	8"	30	#4	14"	25	#4	18"	15	#4	18"	30	#4	18"	14
12	6	#6	6'-9	16"	#6	3'-3	16"	#8	9'-6	8"	#8	9'-6	8½"	#6	6'-3	2'-1	8"	#5	6'-6	2'-0	8"	36	#4	12"	32	#4	14"	7	#4	18"	8	#4	18"	16
	8	#5	8'-6	10"	#5	3'-3	10"	#7	9'-3	6½"	#7	9'-3	6½"	#7	7'-9	2'-8	11"	#6	9'-0	3'-5	11"	36	#4	12"	32	#4	14"	11	#4	18"	20	#4	18"	16
	10	#5	10'-6	13"	#5	3'-3	13"	#7	9'-3	6½"	#7	9'-3	6½"	#7	7'-6	3'-3	11"	#7	7'-6	3'-6	12"	36	#4	12"	32	#4	14"	13	#4	18"	26	#4	18"	16
	12	#6	12'-9	10"	#6	3'-3	10"	#7	9'-3	6½"	#7	9'-3	6½"	#8	7'-9	3'-9	13"	#8	7'-6	3'-6	13"	36	#4	12"	30	#4	18"	15	#4	18"	30	#4	18"	16
14	8	#5	8'-9	14"	#5	3'-3	14"	#8	12'-0	7"	#8	12'-0	7½"	#8	10'-3	4'-0	13"	#7	8'-9	3'-9	13"	32	#5	17"	38	#4	14"	11	#4	18"	20	#4	18"	20
	10	#5	10'-9	14"	#5	3'-3	14"	#8	11'-0	7"	#8	10'-6	7"	#8	8'-3	4'-3	13"	#7	7'-3	4'-0	11½"	32	#5	17"	39	#4	13"	13	#4	18"	26	#4	18"	20
	12	#5	12'-9	14"	#5	3'-3	14"	#8	11'-0	7"	#8	10'-6	7"	#8	8'-6	4'-6	12"	#8	8'-3	4'-3	12"	32	#5	17"	38	#4	14"	15	#4	18"	30	#4	18"	20
	14	#5	14'-9	10½"	#5	3'-3	10½"	#8	11'-0	7"	#8	10'-6	7"	#8	8'-9	4'-9	10½"	#8	8'-6	4'-6	10½"	32	#5	17"	30	#4	14"	19	#4	18"	38	#4	18"	20

✻ NOTE: "QUANTITIES AT ONE END" INCLUDE PARAPET, CUT-OFF WALL, AND BARREL BEYOND LENGTH "L". WINGWALL QUANTITIES ARE NOT INCLUDED.

p-BARS						
CLEAR SPAN	4'	6'	8'	10'	12'	14'
SIZE	#5	#5	#6	#7	#8	#9

NOTE: J-BARS SAME SIZE AS "d-BARS".
k-BARS SAME SIZE AS "e-BARS".

REINFORCING STEEL DIAGRAM

NUMBER OF BARS REQUIRED

a1, b1, m, & n-BARS: 12L ÷ SPACING
a2, b2, c2, d, & e-BARS: 24L ÷ SPACING
p-BARS: 12 FOR CUT-OFF & PARAPET AT EACH END
c1, c3, & c4-BARS: (24L ÷ SPACING) PLUS 2 AT EACH END
J-BARS, & k-BARS: 4 OF EACH AT EACH END
OTHER BARS: SEE TABLE
"L" = LENGTH OF BARREL IN FEET
"E" = 10½" FOR EACH END

NOTE: REFER TO SERIAL CB-32 SHEET 1 OF 5 FOR CONCRETE BOX CULVERT DETAILS, DESIGN DATA, AND GENERAL NOTES.

NO.	DESCRIPTION	DATE	BY
6			
5			
4			
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

NEW MEXICO STATE
HIGHWAY AND TRANSPORTATION
DEPARTMENT

CONCRETE BOX CULVERT BARRELS
DOUBLE OPENING - NORMAL
DESIGN No. 1

LAYOUT BY
DRAWN BY
CHECKED BY
APPROVAL RECOMMENDED ENGINEER [illegible] DATE
APPROVED DIRECTOR OF [illegible] 8-2-93 DATE

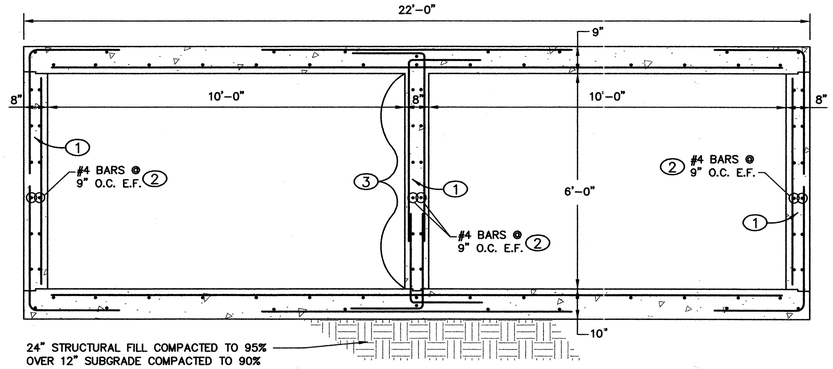
SERIAL CB-32 SHEET 2 OF 5

GENERAL NOTES:

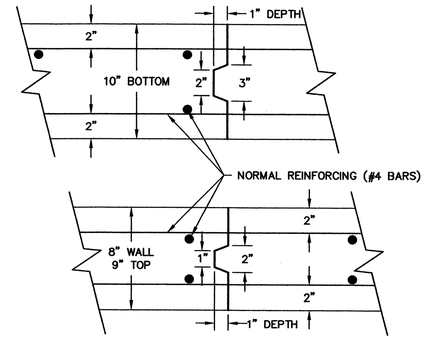
1. REFER TO NMDOT SERIAL CB-32, CONCRETE BOX CULVERT BARRELS DOUBLE OPENING FOR BASIC CONSTRUCTION. CONSTRUCT PER MODIFICATIONS SHOWN SHEETS 9 AND 10.

CBC KEYED NOTES: ⬭

1. NMDOT REFERENCE "TS" (WALL THICKNESS) SHALL BE REVISED TO BE 8" WALL THICKNESS. AS PER SECTION DETAIL, THIS SHEET.
2. NMDOT REFERENCE "Ts & Tc BARS" (REBAR) SHALL BE REVISED TO USE TWO (2) – #4 BARS @ 9" O.C. EACH FACE AS PER SECTION THIS SHEET.
3. EXTEND BARS INTO SPLITTER WALLS AT ENDS OF BOX CULVERT.

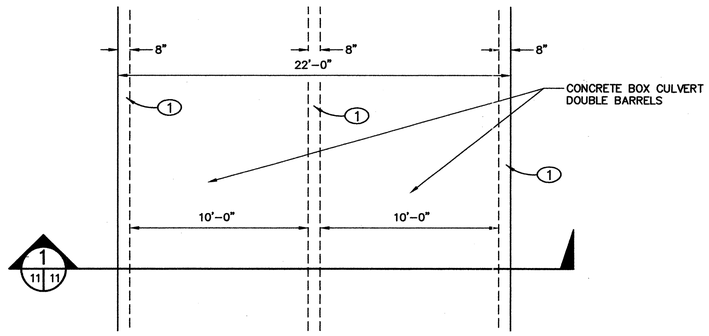


SECTION 1 (11 | 11)



LONGITUDINAL CONSTRUCTION JOINT DETAILS

N.T.S



PLAN VIEW

MODIFIED CBC DIMENSIONS

N.T.S

RECORD DRAWING

AS BUILT INFORMATION		
CONTRACTOR	Salls Bro.	3/07
WORK OVERSEEN BY	C.S	DATE 3/07
INSPECTOR'S FIELD ACCEPTANCE BY	C.A	DATE 3/07
FIELD VERIFICATION BY	C.S	DATE 3/07
DRAWING CORRECTED BY	SEC	DATE 3/07

BENCH MARKS	
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO	
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP	
IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT	
OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.	
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)	MICRO-FILM INFORMATION
PLANE COORDINATES: N = 1524092.46, E = 410237.56	RECORDED BY DATE
	NO.

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

ENGINEERS SEAL

GEORGE NEMETH NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
DESIGNED BY	GN	DATE JULY 2005	
DRAWN BY	KSH	DATE JULY 2005	
CHECKED BY	GN	DATE JULY 2005	

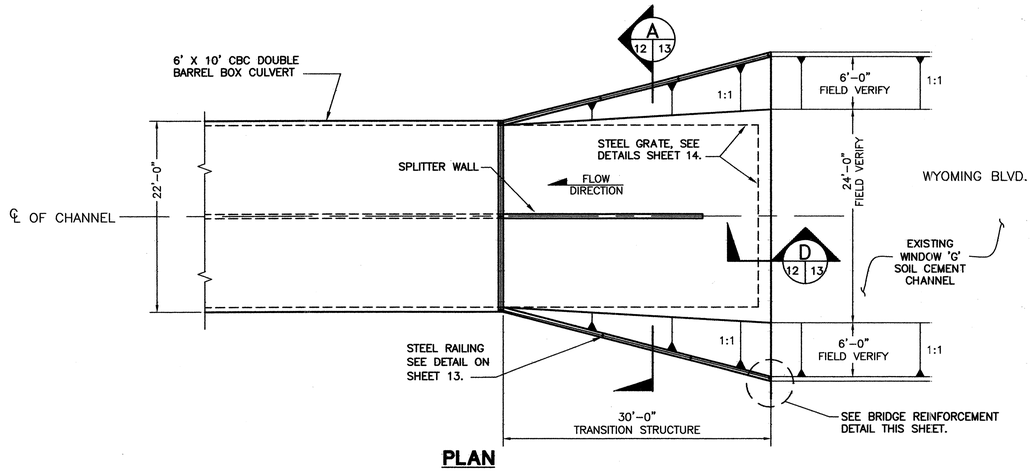
102035B
Smith Engineering Company
A Full Service Engineering Company
2901 San Pedro Boulevard, N.E., Bldg. #4, Suite 200 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
CONCRETE BOX CULVERT DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.
AUG – 4 2005	AUG – 4 2005			

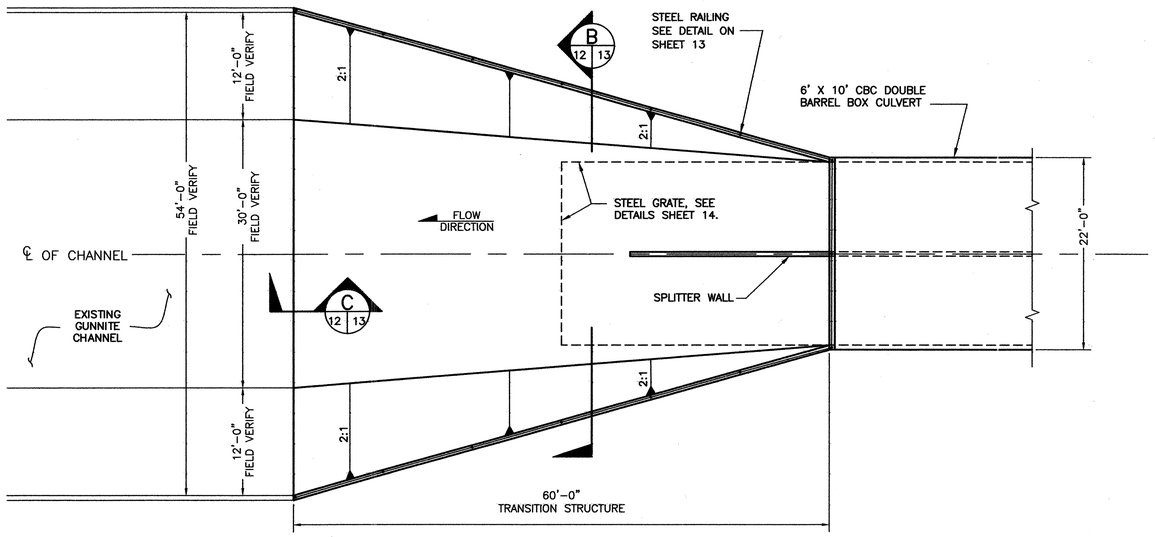
City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	11	14



PLAN

CBC TRANSITION STRUCTURE AT BRIDGE

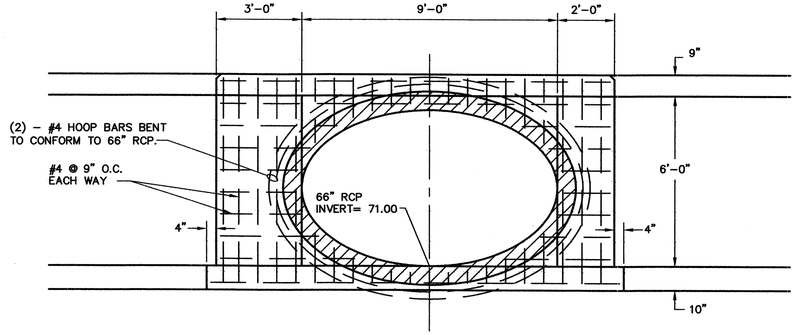
N.T.S.



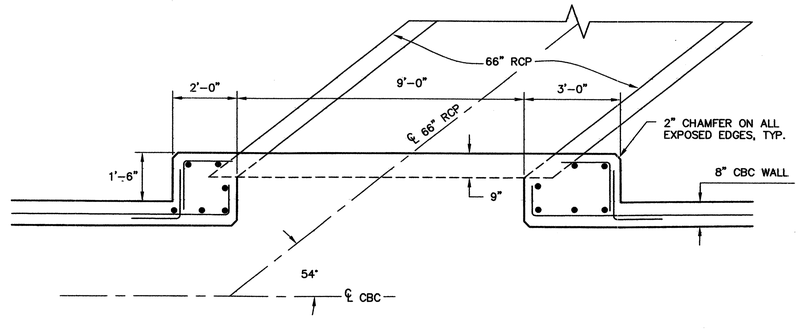
PLAN

CBC TRANSITION STRUCTURE DOWNSTREAM

N.T.S.

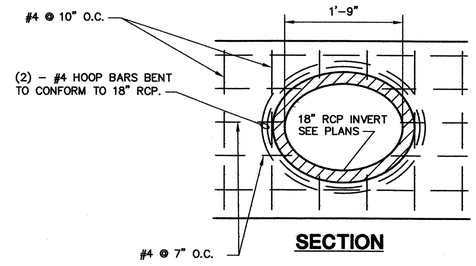


SECTION

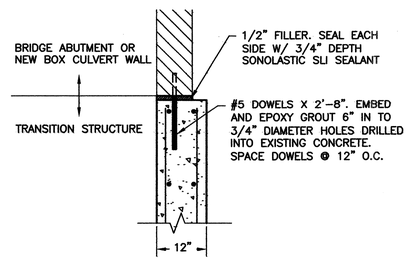


66" PIPE CONNECTION DETAIL

N.T.S.

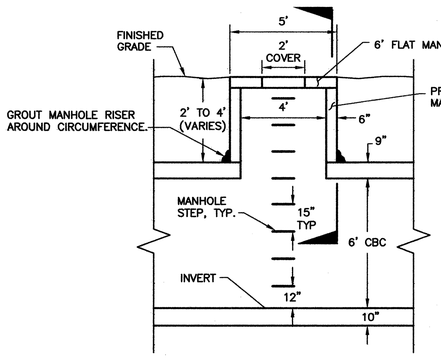


SECTION



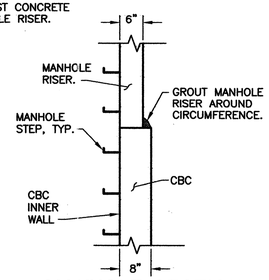
BRIDGE REINFORCEMENT DETAIL

N.T.S.



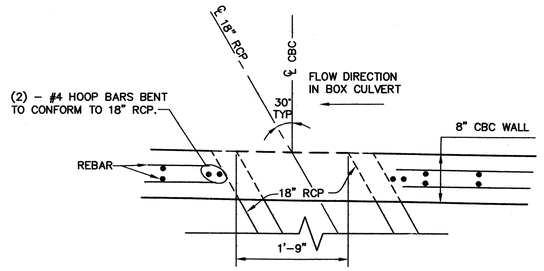
MANHOLE DETAIL

N.T.S.



MANHOLE SECTION

N.T.S.



PLAN VIEW

18" PIPE PENETRATION DETAIL

N.T.S.

RECORD DRAWING

AS BUILT INFORMATION		
CONTRACTOR Sallys Bro.		3/07
SURVEYED BY CS	DATE	3/07
INSPECTOR'S ATTENDANCE BY CoA	DATE	3/07
FIELD VERIFICATION BY CS	DATE	3/07
DRAWING CORRECTED BY SEC	DATE	3/07

SURVEY INFORMATION			
FIELD NOTES			
NO.	BY	DATE	BENCH MARKS
			STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
			ESTABLISHING AGENCY: ACS STANDARD BRASS CAP
			IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT
			OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
			SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
			PLANE COORDINATES: N = 1524092.46, E = 410237.56

MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEERS SEAL

GEORGE NEMENZ NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY GN	DATE JULY 2005
		DRAWN BY KSH	DATE JULY 2005
		CHECKED BY GN	DATE JULY 2005

Smith Engineering Company
A Full Service Engineering Company
2201 San Pedro Boulevard, N.E., Bldg. #4, Suite 200 Albuquerque, New Mexico 87110
102035B

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

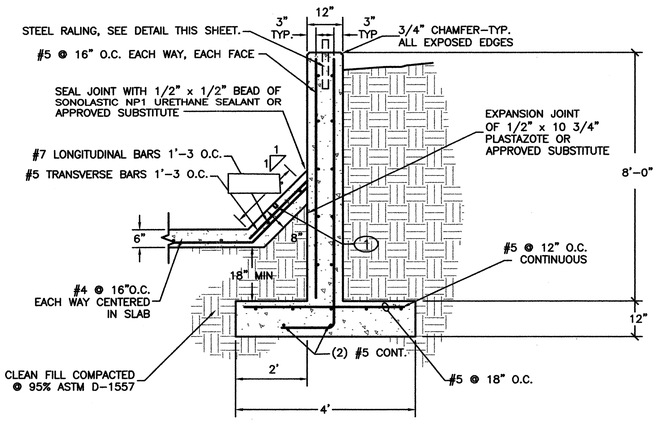
TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
SECTIONS & DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.
AUG – 4 2005	AUG – 4 2005			

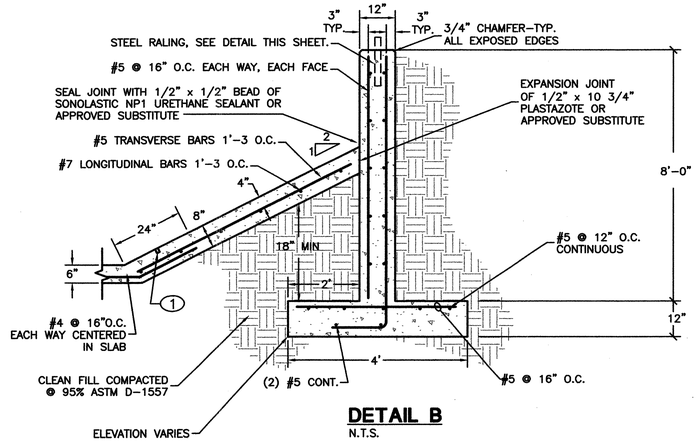
City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	12	14

KEYED NOTES: ⬭

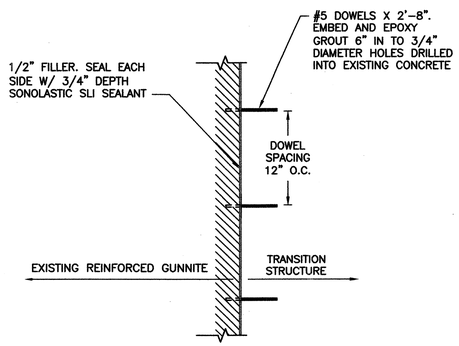
1. PROVIDE A CONTRACTION JOINT ONE (1) FOOT ABOVE THE CHANNEL BOTTOM BEGINNING WHERE SLOPE LENGTH EXCEEDS TWO (2) FEET.



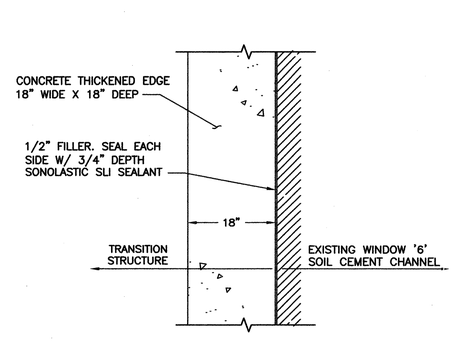
DETAIL A
N.T.S.



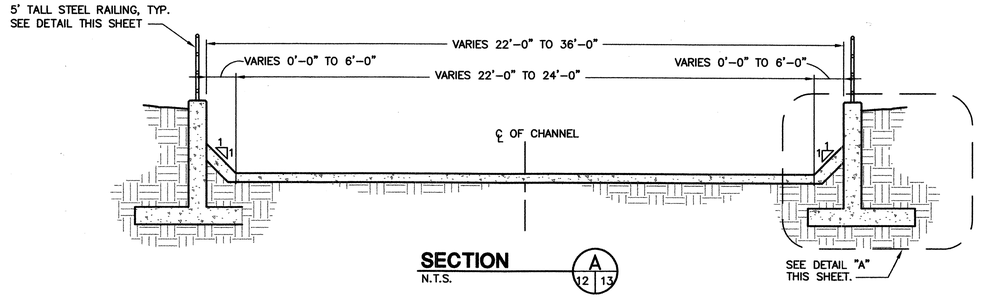
DETAIL B
N.T.S.



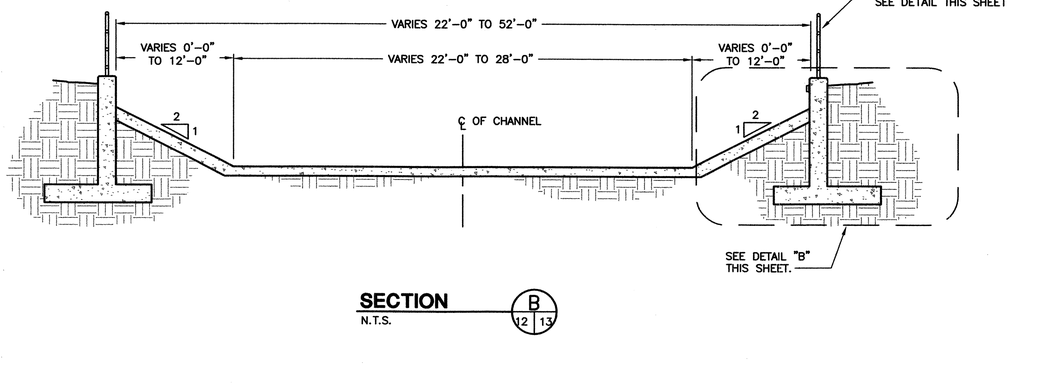
DOWNSTREAM CONNECTION TO EXISTING CHANNEL
N.T.S.



UPSTREAM CONNECTION TO EXISTING CHANNEL
N.T.S.

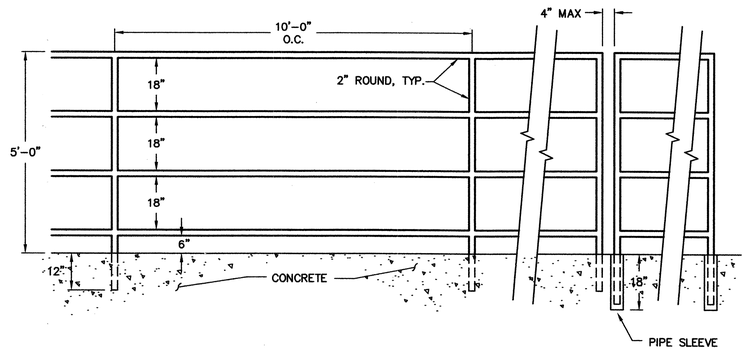


SECTION A
N.T.S.



SECTION B
N.T.S.

REMOVABLE SECTION



NOTES:
1. ALL STEEL FOR RAILING IS 2" ROUND TUBE.
2. SUBMIT FABRICATION DRAWING OR MANUFACTURER'S CUT SHEET FOR ACCEPTANCE BY COA.
3. PROVIDE PAINT CHIP COLOR CARD FOR COLOR SELECTION BY COA.

STEEL RAILING DETAIL
N.T.S.

RECORD DRAWING

AS BUILT INFORMATION
CONTRACTOR Sells Bro. 3/07
STAKED BY CS DATE 3/07
INSPECTOR'S WITNESSING BY CoA DATE 3/07
FIELD VERIFICATION BY CS DATE 3/07
CORRECTED BY SEC MICRO-FILM INFORMATION DATE

BENCH MARKS
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
PLANE COORDINATES: N = 1524092.46, E = 410237.56
RECORDED BY
NO.

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEERS SEAL
GEORGE NEMETH NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-29-05

NO.	DATE	REMARKS / REVISIONS	DESIGNED BY
	DATE JULY 2005	DESIGN	GN
	DATE JULY 2005	DRAWN BY	KSH
	DATE JULY 2005	CHECKED BY	GN

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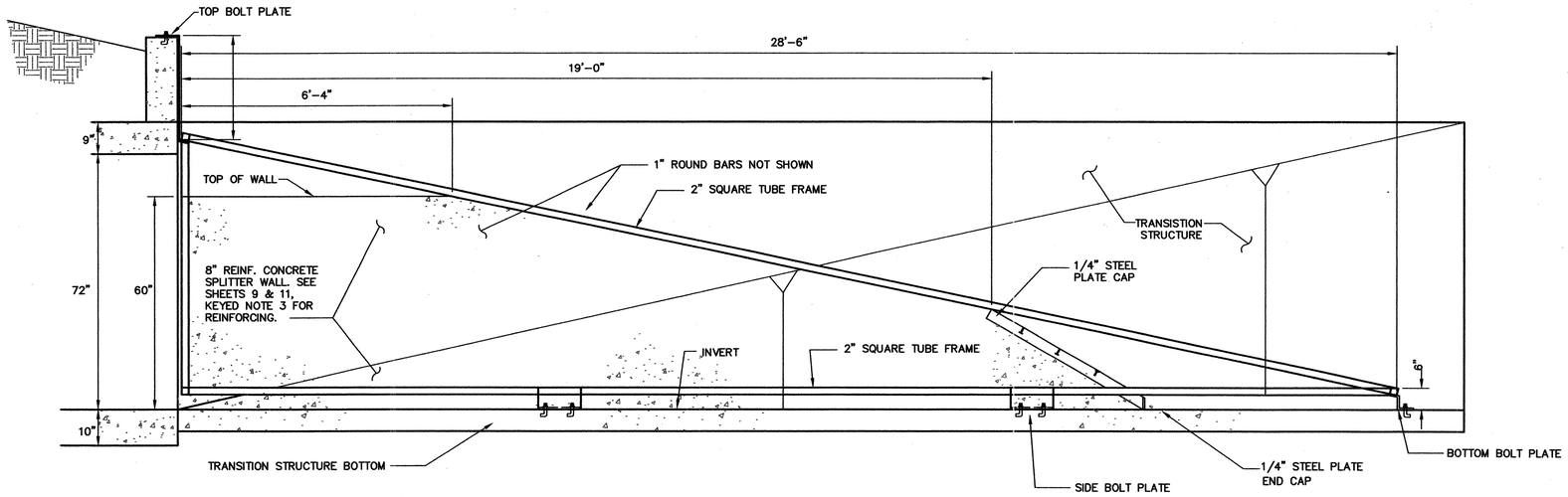
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
TRANSITION STRUCTURE SECTIONS & DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	No. / Buy / Yr.	No. / Buy / Yr.
AUG - 4 2005	AUG - 4 2005			

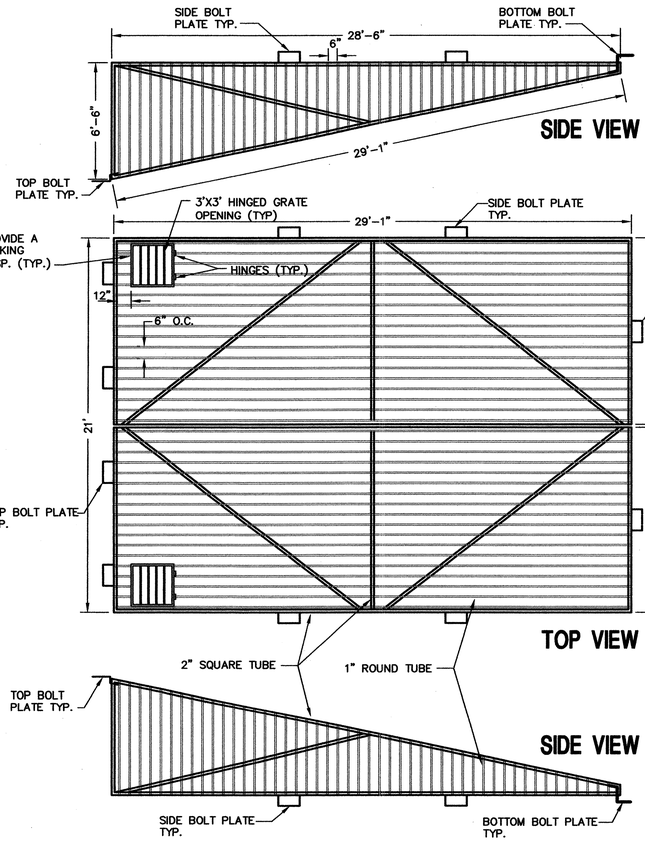
City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	13	14



NOTE: PLACEMENT SHOWN IS FOR UPSTREAM END OF BOX CULVERT.
REVERSE PLACEMENT FOR DOWNSTREAM END OF BOX CULVERT.

GRATE PLACEMENT

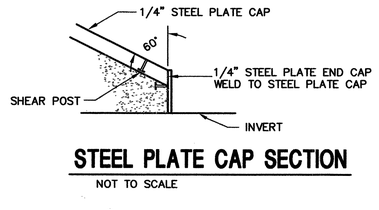
SCALE 1:20



NOTE: FABRICATE GRATE IN TWO PIECES. EACH PIECE CONSISTS ON ONE SIDE PIECE AND ONE-HALF OF THE TOP. (THE TOP VIEW SHOWN ABOVE CONSISTS OF TWO HALVES.)

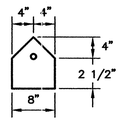
GRATE DETAIL

NOT TO SCALE



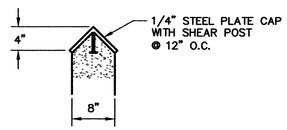
STEEL PLATE CAP SECTION

NOT TO SCALE



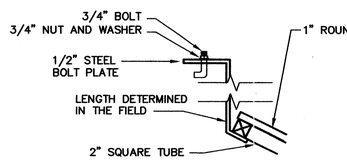
1/2" STEEL PLATE END CAP

NOT TO SCALE



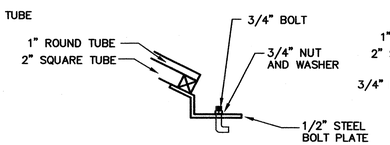
1/2" STEEL PLATE CAP

NOT TO SCALE



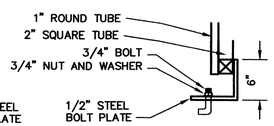
SECTION VIEW

NOT TO SCALE



SECTION VIEW

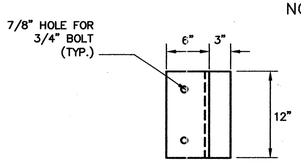
NOT TO SCALE



SECTION VIEW

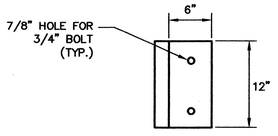
NOT TO SCALE

NOTE: WELD BOLT PLATES TO 2" STEEL TUBE FRAME ALONG ALL CONTACT EDGES.



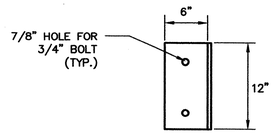
TOP BOLT PLATE

NOT TO SCALE



BOTTOM BOLT PLATE

NOT TO SCALE



SIDE BOLT PLATE

NOT TO SCALE

GENERAL NOTES:

1. THE DETAILS SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY. THE CONTRACTOR MUST PROVIDE DETAILED STRUCTURAL SHOP DRAWINGS FOR ACTUAL GRATE STRUCTURAL DESIGN, FABRICATION AND INSTALLATION.

AS BUILT INFORMATION
CONTRACTOR Sills Bro. 3/07
WORK STAKED BY CS DATE 3/07
INSPECTOR'S FIELD DISTANCE BY COA DATE 3/07
FIELD VERIFICATION BY CS DATE 3/07
DRAWING CORRECTED BY SEC DATE 3/07
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
STATION NAME: 1-B20; STATE: NM; COUNTY: BERNALILLO
ESTABLISHING AGENCY: ACS STANDARD BRASS CAP IN CONCRETE LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF BARSTOW ST. AND MODESTO AVE.
SPIRIT LEVEL ELEVATION = 5474.533 FT. (NGVD 29)
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SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEERS' SEAL
GEORGE NEMETH NEW MEXICO 12284 REGISTERED PROFESSIONAL ENGINEER
6-24-05

REVISIONS
NO. | REMARKS | DATE | BY
DESIGN | JULY 2005 | GN
DRAWN | JULY 2005 | KSH
CHECKED | JULY 2005 | GN

RECORD DRAWING

102035B
Smith Engineering Company
A Full Service Engineering Company
5901 San Pedro Boulevard, N.E., Bldg. #4, Suite 300 Albuquerque, New Mexico 87110

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT

TITLE: NORTH DOMINGO BACA PARK
PHASE 4 CONSTRUCTION - BOX CULVERT
STEEL GRATE SECTIONS & DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	No. / Day / Yr.	No. / Day / Yr.
AUG - 4 2005	AUG - 4 2005			

City Project No.	Zone Map No.	Sheet	Of
7138.92	C-19	14	14