CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services

November 24, 2015

James C. Lewis
904 Princeton
Albuquerque, NM

Re: The Carlisle
3600 Central SE
Traffic Circulation Layout
Engineer's/Architect's Stamp dated 11-23-15 (K17-D069)

Dear Mr. Lewis,

The TCL submittal received 11-23-15 is approved for Building Permit. A copy of the stamped and signed plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation.

When the site construction is completed and a Certificate of Occupancy (C.O.) is requested, use the original City stamped approved TCL for certification. Redline any minor changes and adjustments that were made in the field. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to front counter personnel for log in and evaluation by Transportation.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3690.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

\gs via: email
C: CO Clerk, File

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: The Carlisle Building Permit #: T201592233 City Drainage #: K17D069

DRB#: EPC#: Work Order#:

Legal Description: Tract A Mankato Place

City Address: 3600 Central Ave. SE, Albuquerque, NM 87106

Engineering Firm: Contact:

Address:

Phone#: Fax#: E-mail:

Owner: The Carlisle Condominium, LLC Contact: Kenny Hinkes

Address: 3600 Central Ave. SE

Phone#: 505-615-8613 Fax#: E-mail: kennycsp@gmail.com

Architect: James C Lewis Contact: James C Lewis

Address: 904 Princeton SE

Phone#: 505-247-1529 Fax#: E-mail: gdi@mac.com

Other Contact: Contact:

Address:

Phone#: Fax#: E-mail:

Check all that Apply:

DEPARTMENT:

√ HYDROLOGY/ DRAINAGE
___ TRAFFIC/ TRANSPORTATION
___ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

___ ENGINEER/ ARCHITECT CERTIFICATION

___ CONCEPTUAL G & D PLAN
___ GRADING PLAN
___ DRAINAGE MASTER PLAN
___ DRAINAGE REPORT
___ CLOMR/LOMR

√ TRAFFIC CIRCULATION LAYOUT (TCL)
___ TRAFFIC IMPACT STUDY (TIS)
___ EROSION & SEDIMENT CONTROL PLAN (ESC)

___ OTHER (SPECIFY) ___

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY

___ PRELIMINARY PLAT APPROVAL
___ SITE PLAN FOR SUB'D APPROVAL
___ SITE PLAN FOR BLDG. PERMIT APPROVAL
___ FINAL PLAT APPROVAL
___ SIA/ RELEASE OF FINANCIAL GUARANTEE
√ FOUNDATION PERMIT APPROVAL
___ GRADING PERMIT APPROVAL
___ SO-19 APPROVAL
___ PAVING PERMIT APPROVAL
___ GRADING/ PAD CERTIFICATION
___ WORK ORDER APPROVAL
___ CLOMR/LOMR

___ PRE-DESIGN MEETING
___ OTHER (SPECIFY) ___

RECEIVED
NOV 23 2015
LAND DEVELOPMENT SECTION

IS THIS A RESUBMITTAL?: ___ Yes X No

DATE SUBMITTED: 11/22/15 By: James C Lewis

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services

November 16, 2015

James C. Lewis
904 Princeton
Albuquerque, NM

Re: The Carlisle
3600 Central SE
Traffic Circulation Layout
Engineer's/Architect's Stamp dated 11-11-15 (K17-D069)

Dear Mr. Lewis,

Based upon the information provided in your submittal received 11-12-15, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Upon review, the development project does not meet the Clear Sight requirements.
2. Please include two copies of the traffic circulation layout at the next submittal.

Please contact my office in order to discuss the requirements. Resubmit acceptable package along with fully completed Drainage Transportation Information Sheet to front counter personnel for log in and evaluation by Transportation. If you have any questions, please contact Gary Sandoval (505) 924-3675 or me at 924-3991.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

\gs via: email
C: CO Clerk, File

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City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: The Carlisle Building Permit #: T201592233 City Drainage #: K17D069

DRB#: EPC#: Work Order#:

Legal Description: Tract A Mankato Place

City Address: 3600 Central Ave. SE, Albuquerque, NM 87106

Engineering Firm: Contact:

Address:

Phone#: Fax#: E-mail:

Owner: The Carlisle Condominium, LLC Contact: Kenny Hinkes

Address: 3600 Central Ave. SE

Phone#: 505-615-8613 Fax#: E-mail: kennycsp@gmail.com

Architect: James C Lewis Contact: James C Lewis

Address: 904 Princeton SE

Phone#: 505-247-1529 Fax#: E-mail: gdi@mac.com

Other Contact: Contact:

Address:

Phone#: Fax#: E-mail:

Check all that Apply:

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___ TRAFFIC/ TRANSPORTATION

___ MS4/ EROSION & SEDIMENT CONTROL

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___ DRAINAGE MASTER PLAN

___ DRAINAGE REPORT

___ CLOMR/LOMR

√ TRAFFIC CIRCULATION LAYOUT (TCL)

___ TRAFFIC IMPACT STUDY (TIS)

___ EROSION & SEDIMENT CONTROL PLAN (ESC)

___ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

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___ FINAL PLAT APPROVAL

√ SIA/ RELEASE OF FINANCIAL GUARANTEE

___ FOUNDATION PERMIT APPROVAL

___ GRADING PERMIT APPROVAL

___ SO-19 APPROVAL

___ PAVING PERMIT APPROVAL

___ GRADING/ PAD CERTIFICATION

___ WORK ORDER APPROVAL

___ CLOMR/LOMR

___ PRE-DESIGN MEETING

___ OTHER (SPECIFY)

RECEIVED NOV 12 2015 LAND DEVELOPMENT SECTION

IS THIS A RESUBMITTAL?: ___ Yes X No

DATE SUBMITTED: 11/11/15 By: James C Lewis

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services

November 5, 2015

James Lewis
904 Princeton Ave. SE
Albuquerque, NM

Re: The Carlisle
3600 Central SE
Traffic Circulation Layout
Engineer's/Architect's Stamp dated 11-1-15 (K17-D069)

Dear Mr. Lewis,

Based upon the information provided in your submittal received 11-4-15, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Please provide a sight distance exhibit signed and stamped by N.M. professional engineer.
2. Please add the following note to the clear sight triangle: "Landscaping and signage will not interfere with clear sight requirements. Therefore, signs, walls, trees, and shrubbery between 3 and 8 feet tall (as measured from the gutter pan) will not be acceptable in this area."
3. Please show a vicinity map showing the location of the development in relation to streets and well known landmarks.
4. Identify all existing access easements and rights of way with dimensions, including alley on the south side of proposed building.
5. Identify the right of way width, medians, curb cuts, and street widths on Carlisle Blvd., Central Ave. and public alley on the south side of proposed building.
6. The ADA accessible parking sign must have the required language per 66-7-352.4C NMSA 1978 **"Violators Are Subject to a Fine and/or Towing."** Please show a detail of ADA signage.
7. The ADA access aisle shall have the words **"NO PARKING"** in capital letters, each of which shall be at least one foot high and at least two inches wide, placed at the rear of the parking space so as to be close to where an adjacent vehicle's rear tire would be placed. (66-1-4.1.B NMSA 1978) Please clearly label the width of the ADA access isle.

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NM 87103
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CITY OF ALBUQUERQUE

8. Per the DPM, a 6 ft. wide ADA accessible pedestrian pathway is required from the public sidewalk to the building entrances. Please clearly show this pathway and provide details, including slope details of pedestrian pathway to the building entrance.
9. Per the DPM, a 6 ft. wide ADA accessible pedestrian pathway is required from the HC parking stall access aisles to the building entrances. Please include details of ADA access to lobby and elevator.
10. Provide a min 6" or max 8" high concrete barrier curb or other acceptable barrier between landscaping and parking areas and/or drive aisles. Please detail barrier curb.
11. Design delivery vehicle route needs to be shown.
12. Service vehicle and/or refuse vehicle maneuvering must be contained on-site; provide a copy of refuse approval. Please clearly show location of refuse container.
13. Unused curb cuts must be replaced with sidewalk and curb & gutter. A build note must be provided referring to the appropriate City Standard drawing.
14. Please include two copies of the traffic circulation layout at the next submittal.

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Albuquerque

NM 87103

www.cabq.gov

Resubmit acceptable package along with fully completed Drainage Transportation Information Sheet to front counter personnel for log in and evaluation by Transportation. If you have any questions, please contact Gary Sandoval (505) 924-3675 or me at 924-3991.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

\gs via: email
C: CO Clerk, File

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: The Carlisle Building Permit #: T201592233 City Drainage #: K17D069

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Tract A Mankato Place

City Address: 3600 Central Ave. SE, Albuquerque, NM 87106

Engineering Firm: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Owner: The Carlisle Condominium, LLC Contact: Kenny Hinkes

Address: 3600 Central Ave. SE

Phone#: 505-615-8613 Fax#: _____ E-mail: kennycsp@gmail.com

Architect: James C Lewis Contact: James C Lewis

Address: 904 Princeton SE

Phone#: 505-247-1529 Fax#: _____ E-mail: gdi@mac.com

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

_____ HYDROLOGY/ DRAINAGE
√ TRAFFIC/ TRANSPORTATION
_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ DRAINAGE MASTER PLAN
_____ DRAINAGE REPORT
_____ CLOMR/LOMR

√ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ TRAFFIC IMPACT STUDY (TIS)
_____ EROSION & SEDIMENT CONTROL PLAN (ESC)

_____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

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_____ CERTIFICATE OF OCCUPANCY

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_____ SO-19 APPROVAL
_____ PAVING PERMIT APPROVAL
_____ GRADING/ PAD CERTIFICATION
_____ WORK ORDER APPROVAL
_____ CLOMR/LOMR

_____ PRE-DESIGN MEETING
_____ OTHER (SPECIFY) _____

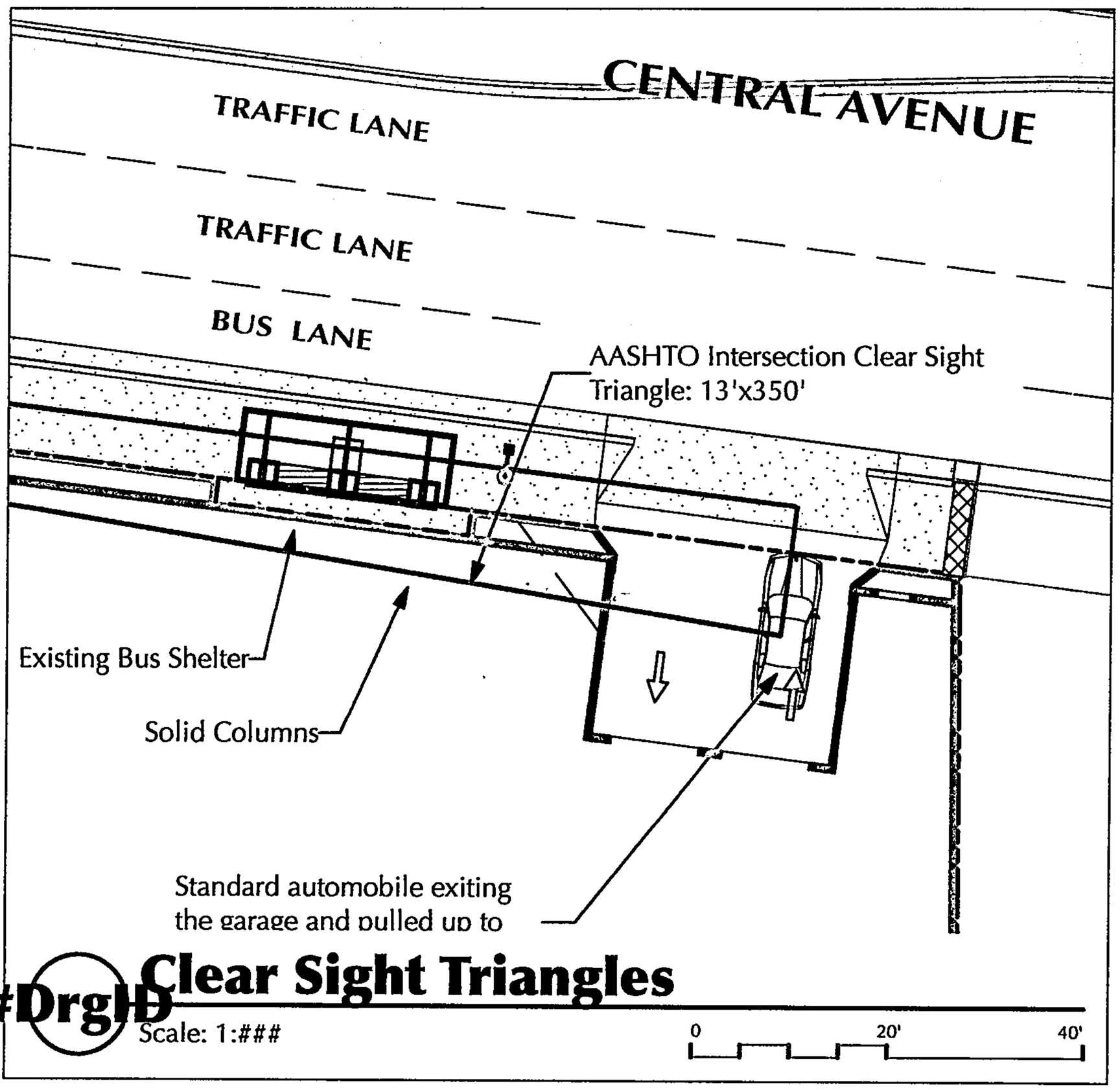
IS THIS A RESUBMITTAL?: _____ Yes X No

DATE SUBMITTED: 11/3/15 By: James C Lewis

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

RECEIVED
Nov 4
~~OCT 27~~ 2015

CARLISLE BLVD


CENTRAL AVENUE
TRAFFIC LANE
TRAFFIC LANE
BUS LANE
AASHTO Intersection Clear Sight Triangle: 13'x350'
Existing Bus Shelter
Solid Columns
Standard automobile exiting the garage and pulled up to
#DrgID
Clear Sight Triangles
Scale: 1:###
0
20'
40'

CITY OF ALBUQUERQUE

September 28, 2015

Diane Hoelzer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: The Carlisle
SW Corner of Carlisle/Central
Grading and Drainage Plan
Engineer's Stamp dated: 9/16/2015 (K17D69)

Dear Ms. Hoelzer,

Based on the information provided in your submittal received 9/16/2015, the above referenced Grading and Drainage Plan is approved for Grading Permit, Building Permit and SO-19. Contact Jason Rodriguez at 235-8016 to schedule an inspection for the drive pads. A separate Excavation/Barricading Permit is required for SO-19 construction within City ROW. A copy of this approval letter must be on hand when applying for the permit.

Please attach a copy of this approved plan to the construction sets in the permitting process prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Shahab Biazar, P.E.
City Engineer, Albuquerque
Planning Department

RR/SB
C: File

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: The Carlisle Condominiums Building Permit #: _____ City Drainage #: K17 / D069

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 1 thru 6, Block 1 replat of Mankato Place, as the same are shown and designated on the replat of said Block 1

City Address: Central Ave. and Carlisle Blvd.

Engineering Firm: MARK GOODWIN AND ASSOCIATES, PA Contact: Diane Hoelzer, PE

Address: PO BOX 90606, ABQ, NM 87199

Phone#: 828-2200 Fax#: _____ E-mail: diane@goodwinengineers.com

Owner: Kenny Kinkes Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: James C Lewis General Design, Inc. Contact: Jim Lewis

Address: 904 Princeton SE, ABQ, NM 87106

Phone#: 247-1529 Fax#: _____ E-mail: gdi@mac.com

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE
____ TRAFFIC/ TRANSPORTATION
____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

____ ENGINEER/ ARCHITECT CERTIFICATION

____ CONCEPTUAL G & D PLAN
X GRADING PLAN
____ DRAINAGE MASTER PLAN
____ DRAINAGE REPORT
____ CLOMR/LOMR

____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
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____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR

____ PRE-DESIGN MEETING
____ OTHER (SPECIFY) _____

RECEIVED
SEP 16 2015
LAND DEVELOPMENT SECTION

IS THIS A RESUBMITTAL?: X Yes ____ No

DATE SUBMITTED: September 16, 2015 By: Diane Hoelzer, PE

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

September 16, 2015

Ms. Rita Harmon, PE
Hydrology Division, Planning Dept.
Development and Building Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: The Carlisle Condominiums
Grading and Drainage Plan
Engineers stamp date 9-16-15 (K17 / D69)

Dear Ms. Harmon;

In response to your comment letter dated 9-3-15;

1. *The storage tank will be concrete and lined with XYPEX Concentrate. The products' specification is attached.*
2. *More detail has been provided along the concrete areas adjacent to Carlisle Blvd. and Central Ave.*
3. *More detail provided.*
4. *City spec. for sidewalk culvert has been added to the plan.*

Please call me if you have any questions.

Sincerely,

MARK GOODWIN & ASSOCIATES, P.A.

Diane Hoelzer, PE
Senior Engineer

DLH/dlh
f:\\15013 /Carlisle Condo\ HYDRO_LTR 2_15013.docx

CITY OF ALBUQUERQUE

September 3, 2015

Diane Hoelzer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: The Carlisle
SW Corner of Carlisle/Central
Grading and Drainage Plan
Engineer's Stamp dated: 9/1/2015 (K17D69)

Dear Ms. Hoelzer,

Based on the information provided in your submittal received 9/1/2015, the above referenced Grading and Drainage Plan cannot be approved for Grading Permit or Building Permit until the following comments are addressed.

- Provide the type of surface in the storage tank (Impervious concrete, bitumen).
- Provide what the existing drives will be replaced with (Walkway, landscape).
- Provide what is in the areas to the north and west of the building.
- Provide a keyed note for the sidewalk culvert mentioning the city spec.

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/RH
C: email

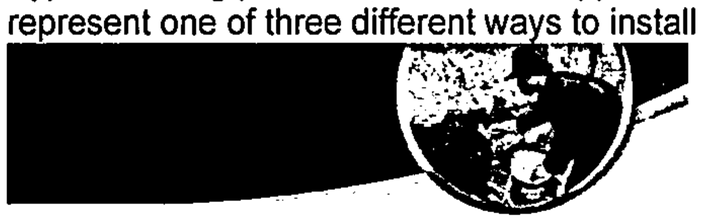
PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

Search Search

Home Products Coating Products Concentrate

Coating Products

Xypex Coating products, for surface application, are part of the Xypex concrete waterproofing and protection system and represent one of three different ways to install Xypex Crystalline Technology into concrete.



Download

- Concentrate Product Data
- Coating Specification
- Material Safety (MSDS)
- Schematic Drawings
- Spec Data
- Warranty

Installation Video

Play

Contact Head OfficeFind a DistributorPrivacyTerms of Use Mobile Theme

Xypex Concentrate

Product Description

Xypex Concentrate is the most chemically active product within the Xypex Crystalline Waterproofing System. When mixed with water, this light grey powder is applied as a cementitious slurry coat to above-grade or below-grade concrete, either as a single coat or as the first of a two-coat application. It is also mixed in Dry-Pac form for sealing strips at construction joints, or for the repairing of cracks, faulty construction joints and honeycombs. Xypex prevents the penetration of water and other liquids from any direction by causing a catalytic reaction that produces a non-soluble crystalline formation within the pores and capillary tracts of concrete and cement-based materials.

Installing this product: » Concentrate // Coating Installations

Recommended for:

- Reservoirs
- Sewage and Water Treatment Plants
- Secondary Containment Structures
- Tunnels and Subway Systems
- Underground Vaults
- Foundations
- Parking Structures
- Swimming Pools

Advantages

- Resists extreme hydrostatic pressure
- Becomes an integral part of the substrate
- Can seal hairline cracks up to 0.4 mm
- Allows concrete to breathe
- Highly resistant to aggressive chemicals
- Non-toxic
- Does not require a dry surface
- Cannot puncture, tear or come apart at the seams
- No costly surface priming or leveling prior to applicationDoes not require sealing, lapping and finishing of seams at corners, edges or between membranes
- Can be applied to the positive or the negative side of the concrete surface
- Does not require protection during backfilling or during placement of steel, wire mesh or other materials
- Less costly to apply than most other methods
- Not subject to deterioration
- Permanent

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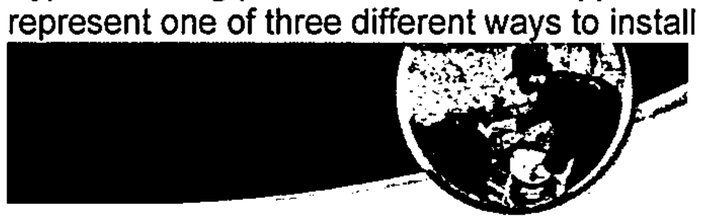

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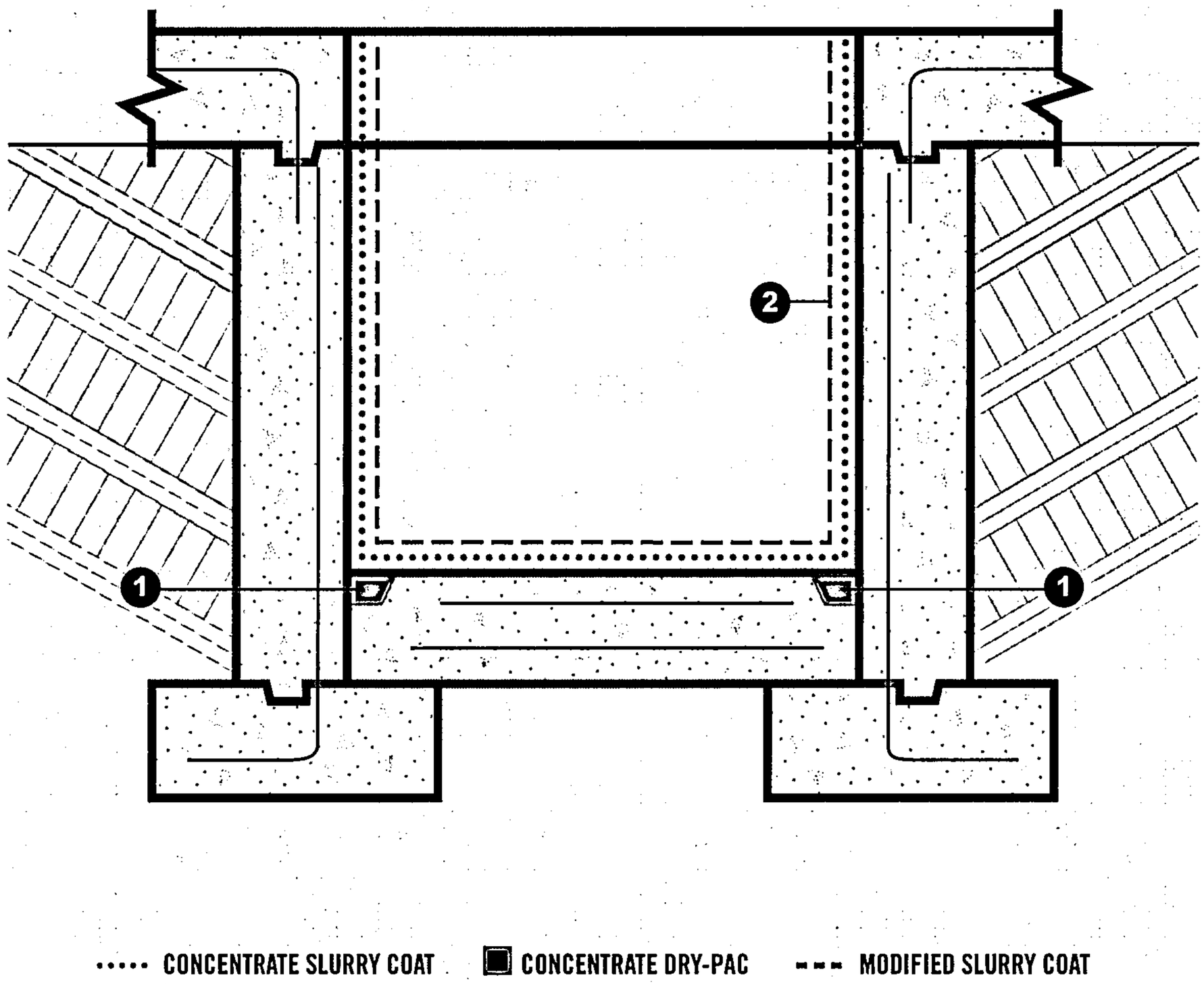
- Permanent

ELEVATOR PIT / SUMP PIT



Step 1 In sealing strip, apply one coat of Xypex Concentrate at the rate of 1.5 lb./sq. yd. (0.8 kg/m²), then fill slot to surface with Xypex Concentrate in Dry-Pac form.

Step 2 Apply one slurry coat of Xypex Concentrate to walls and floor slab at a rate of 1.25 - 1.5 lb./sq. yd. (0.65 - 0.8 kg/m²). After the Concentrate has set but while it is still "green", apply a coat of Xypex Modified at the rate of 1.25 - 1.5 lb./sq. yd. (0.65 - 0.8 kg/m²).

For hydraulic elevators, please contact your Xypex representative for detail drawings.

Note 1: Schematic diagram shows Xypex application details only and does not depict standard requirements for waterstops or expansion joint sealants.

Note 2: Schematic drawing shows Xypex Coating application. Specifier may consider the alternative use of Xypex Dry Shake (DS-Series) or Xypex Additive (Admix C-Series), where applicable. Refer to Standard Specifications for more information.

CITY OF ALBUQUERQUE

September 3, 2015

Diane Hoelzer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: The Carlisle
SW Corner of Carlisle/Central
Grading and Drainage Plan
Engineer's Stamp dated: 9/1/2015 (K17D69)

Dear Ms. Hoelzer,

Based on the information provided in your submittal received 9/1/2015, the above referenced Grading and Drainage Plan cannot be approved for Grading Permit or Building Permit until the following comments are addressed.

- Provide the type of surface in the storage tank (Impervious concrete, bitumen).
- Provide what the existing drives will be replaced with (Walkway, landscape).
- Provide what is in the areas to the north and west of the building.
- Provide a keyed note for the sidewalk culvert mentioning the city spec.

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/RH
C: email

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: The Carlisle Condominiums ZAP/DRG. FILE K17 D69
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Lot 1, 2, 3, 4, 5, 6 in Block 1 replat of Mankato Place, as the same are shown and designated on the replat of said Block 1
CITY ADDRESS: SW corner of Central Avenue and Carlisle Blvd S.E

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: Diane Hoelzer
ADDRESS: PO Box 90606 PHONE: 828-2200
CITY, STATE: Albuquerque, NM ZIP CODE: 87199

OWNER: Kenny Hinkes CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: James C Lewis General Design, Inc. CONTACT: Jim Lewis
ADDRESS: 904 Princeton SE PHONE: 247-1529
CITY, STATE: Albuquerque, NM ZIP CODE: 87106

SURVEYOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:
- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1st SUBMITTAL
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL G & D PLAN
- X GRADING PLAN (2) COPIES
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERT (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT
- ____ ENGINEER/ARCHITECT CERT (TCL)
- ____ ENGINEER/ARCHITECT (DRB SITE PLAN)
- ____ OTHER (Percolation Testing

CHECK TYPE OF APPROVAL SOUGHT:
- ____ SIA/FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TEMP)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- X OTHER (Construction Plans Approval) S0.19

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ____ YES
- ____ NO
- ____ COPY PROVIDED

RECEIVED
SEP 01 2015
LAND DEVELOPMENT SECTION

SUBMITTED BY: Diane Hoelzer, PE DATE: September 1, 2015

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

[redacted]

RECEIVED
SEP 01 2015
LAND DEVELOPMENT SECTION

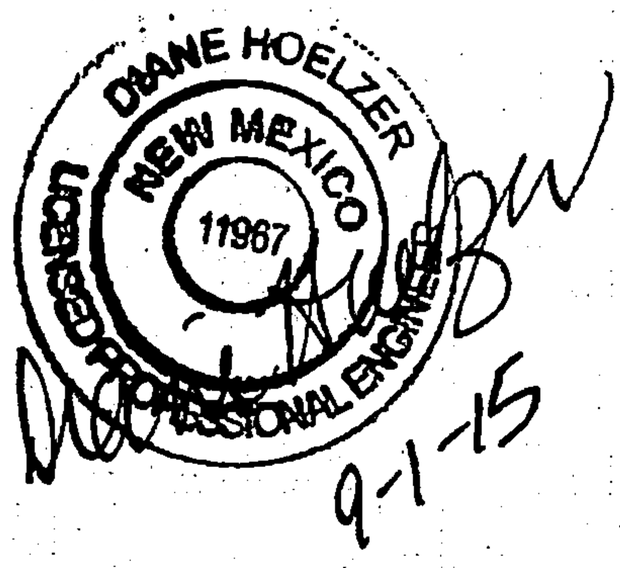
MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

dmg

DRAINAGE REPORT

For

Carlisle Condominium Project



Prepared by
Mark Goodwin & Associates, P.A.

September 1, 2015

f:\projects\15013 CARLISLE CONDO\Drainage_rpt.wpd

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IV. COA FIRST FLUSH CITY CRITERIA

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VI. W.S.P.G.W. STORM ANALYSIS- INPUT AND OUTPUT

VII. AHYMO RESULTS

VIII. ROOF DRAIN SYSTEM SCHEMATIC

POCKET 1 GRADING AND DRAINAGE PLAN
BUILDING ELEVATION PLAN
DRAINAGE DETAILS

f:\projects\15013 CARLISLE CONDO\Drainage_rpt.wpd

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

September 1, 2015

Ms. Rita Harmon, PE
Hydrology Division, Planning Dept.
Development and Building Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: The Carlisle
Engineers stamp date 9-1-15 (K17 / D69)

Dear Ms. Harmon;
In response to your comment letter dated 7-2-15, your comments are addressed below:

1. *It is not possible to route the first flush through a pond or landscape area. The first flush will be directed to a detention storage tank before being pumped out to Central after a 24 hour detention period.*
2. *FIRM panel attached.*
3. *The word "Conceptual" has been removed,*
4. *Yes,*
5. *A "Table" has been added to plan,*
6. *The finished floor elevation for the underground garage is shown on the grading plan (52101.7) but it varies some to allow for drainage to a low spot. The finished floor elevations for the other floor elevations is shown on the building elevation plan.*
7. *Roof flows were already provided on the plan under SUMMARY OF HYDROLOGY,*
8. *The Alley is not part of this project and is considered offsite flows. The existing alley way according to the plans appears to be at elevation 5210.00. These flows do not enter our site. Our project is not changing the existing offsite conditions. Flows from the alley exit to either Carlisle or Hermosa Drive.*
9. *This project does not include any work in the alley way. The alley way is not paved. There will be no drainage into the alley way.*
10. *This is incorrect. The bus stop encroaches into our private property. I have been told that the City has an encroachment agreement.*
11. *Rainwater does not enter the garage side walls. Any nuisance flows will be collected in a sump and pumped to the sanitary sewer in Central Avenue.*

Please call me if you have any questions.

Sincerely,

MARK GOODWIN & ASSOCIATES, P.A.

Diane Hoelzer, PE
Senior Engineer

DLH/dlh
f:\\15013 /Carlisle Condo\ HYDRO_LTR_15013.docx

CITY OF ALBUQUERQUE

July 2, 2015

Diane Hoelzer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: The Carlisle
SW Corner of Carlisle/Central
Grading and Drainage Plan
Engineer's Stamp dated: 6/18/2015 (K17D69)

Dear Ms. Hoelzer,

Based on the information provided in your submittal received 6/19/2015, the above referenced Grading and Drainage Plan cannot be approved for Grading Permit or Building Permit until the following comments are addressed.

- The plan does not state how the first flush is being accomplished. The first .34" times the impervious area must flow through a pond or some type of landscaping before entering the public storm sewer system.
- Provide a FIRMette or a description of the flood zone and the FIRM panel the information was obtained.
- Remove from the plan the statement conceptual.
- Approval from the DRB is required for the removal of lot lines.
- Provide a table with existing and proposed flows.
- Provide the finish floor elevation.
- Provide roof flows.
- Provide how flows exit the alley way.
- The demo permit showed removal of all existing paving. Did this include the alley way? Is the alley paved? Will there be drainage into the alley?
- Building encroaches into bus stop, is there an easement agreement?
- If rain water can enter garage through openings in the walls, the sump inlet cannot drain into the sanitary sewer system, it must discharge into a pond for FF requirements.

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

C: RR/SB
email

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

CARLISLE CONDOMINIUM PROJECT

PROJECT DESCRIPTION: This 0.48 acre site is proposed to be developed into a 36 unit multi-level condominium complex with an underground parking garage.

EXISTING CONDITIONS: The project site is bounded by Carlisle Blvd. and Central Avenue on the west and north side of the property. Runoff from Carlisle is conveyed northerly as street flow then eastward at the intersection with Central Avenue. The east property boundary has a block wall that serves as a divide line between the existing restaurant outdoor patio and this project site. The south boundary consists of a gravel road that serves as access for the adjacent residences and church to the south. This project will have only one access location off of Central Avenue. No offsite flows enter this site under existing conditions.

PROPOSED CONDITIONS: Runoff from the roof will be directed to the "first flush' runoff storage tank located in the underground parking garage southeast corner. The tank will detain the required "first flush" runoff volume of 601 cu.ft. for 24 hours. After this detention time, the first flush volume will be pumped at a rate not to exceed 2.35 cfs through the 8" outfall discharge pipe to Central Avenue.

During any storm event when the first flush runoff volume is exceeded, the excess runoff will spill through a 10" diameter PVC pipe that serves as a spillway weir, into an 8" PVC pipe that conveys the runoff as gravity flow to a 24" sidewalk culvert and into Central Avenue.

Summary of Hydrology

To analyze and size the discharge pipe from the "first flush" storage tank, the "Water Surface Pressure Gradient Package" WSPGW was used to develop a rating table to be used in the AHYMO program that determined the maximum water surface elevation and peak discharge for the 100 year 6 hour storm event.

PROCEDURE: The peak discharge for the 100 year 6 hours storm event from the roof is 2.35 cfs. A rating table for peak discharge versus hydraulic head from the storage tank was developed for 2.1, 2.2, 2.3, 2.4, 2.5 cfs. These results along with the volume of storage calculated at the head elevations determined from the WSPGW program were inserted into the AHYMO program to determine the maximum WSEL and peak discharge for the 100 year 6 hour storm event.

SUMMARY OF WSPGW PROGRAM: RATING TABLE

DISCHARGE (cfs)	ELEVATION (ft.)
2.1	5206.28
2.2	5206.61
2.3	5206.96
2.4	5207.32
2.5	5207.69

SUMMARY OF AHYMO RATING TABLE:

OUTFLOW (cfs)	STORAGE (Ac.Ft.)	ELEVATION (Feet)
0.00	0.013797	5205.60
2.10	0.016227	5206.29
2.20	0.017394	5206.62
2.30	0.018596	5206.96
2.40	0.019869	5207.32
2.50	0.027117	5207.69

SUMMARY OF AHYMO RESULTS:

PEAK Q=2.19 cfs
MAXIMUM WSEL=5206.60
MAXIMUM STORAGE VOLUME=0.0173 AC.FT.

The input and output results from these two programs are attached.

MAP SCALE 1" = 500'

0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0353H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 353 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0353	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
35001C0353H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT

HYDROLOGY DEVELOPMENT SECTION
DEVELOPMENT REVIEW SERVICES

GENERAL HYDROLOGY CRITERIA:

- All new development projects shall manage the runoff from precipitation which occurs during the 90th Percentile Storm Events, referred to as the "first flush." The Site Plan/Drainage Plan must indicate all areas and mechanisms intended to capture the first flush. For volume calculations, the 90th Percentile storm event is 0.44 inches. For Land Treatment D the initial abstraction is 0.1", therefore the first flush volume should be based on 0.44"-0.1"=0.34" and only consider the impervious areas.

- The applicant may request a pre-design meeting with the Hydrology Section. First submit a Conceptual Grading and Drainage plan, and indicate on the DTIS sheet (in large bold letters at the top) that a pre-design conference is requested (DTIS sheet is the information sheet required for all Hydrology and Transportation submittals). The reviewer will contact the applicant to set up a meeting.
    - The engineer should research the Master Drainage Plan and/or adjacent sites – essentially practice due diligence prior to meeting. Conceptual Grading and Drainage plans should reference the master drainage plan or other sources that indicate the intended drainage for that area. **The applicant should provide excerpts from the supporting documents and/or grading plans.**
    - Final Drainage Reports should have an appendix with all supporting documentation
    - Note: Please

NSW EPA

Healthy Environment, Healthy Community, Healthy Business

Stormwater first flush pollution

See also

The EPA's Stormwater homepage

Contents

Aim of this document
What is first flush?
Does first flush always happen?
Pollutants found in first flush
How to control stormwater pollution from individual premises
Designing first flush systems
Pollute waters
Summary
Further reading

Aim of this document

This document describes what first flush is, situations in which it is likely to occur and how it can be managed. It identifies factors and criteria that should be considered in the design of first flush stormwater pollution control systems.

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What is first flush?

Pollutants deposited on to exposed areas can be dislodged and entrained by the rainfall-runoff process. Usually the stormwater that initially runs off an area will be more polluted than the stormwater that runs off later, after the rainfall has 'cleansed' the catchment. The stormwater containing this high initial pollutant load is called the 'first flush'.

The existence of this first flush of pollutants provides an opportunity for controlling stormwater pollution from a broad range of land uses. First flush collection systems are employed to capture and isolate this most polluted runoff, with subsequent runoff being diverted directly to the stormwater system.

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Does first flush always happen?

The existence of first flush should not be assumed in all cases. Intensive monitoring of stormwater runoff from some (usually larger) catchments has failed to observe this phenomenon. Clearly the existence or non-existence of first flush is critical in the design of stormwater pollution controls.

First flush may not be observed for one or more of the following reasons:

- The drainage characteristics of the catchment may prevent it. Particularly in large catchments, initial runoff from the most distant parts of the catchment may not reach the catchment outlet for some time after a storm starts. This time lag is rarely an issue for smaller, individual premises.
- The pollutants may not be very mobile. Rainfall does not remove some pollutants, like oils and greases, as easily or as quickly as soluble materials and fine dusts. Bare soils or vegetated surfaces are generally not 'cleansed' as easily or effectively as sealed surfaces.
- Pollutant sources that are effectively continuous may exist within the catchment. First flush is generally seen only where the supply of pollutants is limited. Sediment generated from soil erosion, for example, will not give a first flush because the supply of soil particles is (for all practical purposes) unlimited. In cases like this, on-line, flow-through pollution controls will be needed. In urban catchments during large storms, continuous discharges from sewer overflows may mask any first flush associated with stormwater runoff.

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Pollutants found in first flush

A broad range of pollutants can be found in stormwater runoff. The nature of these pollutants depends strongly on the land use and the activities carried out on the site or catchment.

Pollutants can come from atmospheric fallout, accidental spills, leakages, materials handling practices, or the application of chemicals (including fertilisers) or wastes to land.

The appropriateness of first flush containment depends primarily on the nature and source of the pollution, in terms of the drainage hydrology, pollutant mobility and pollutant supply.

Back to top

How to control stormwater pollution from individual premises

First flush is most readily observed on small catchments or individual premises, particularly if a high proportion of the catchment is impervious (such as paved surfaces and roads). In such cases, the first flush collection system can form an integral part of the stormwater pollution control system.

The first flush containment system also acts as an emergency backup if there is a chemical spill or similar incident. This reduces the risk of pollution and subsequent prosecution.

The following principles are a general guide to controlling stormwater pollution from individual premises.

- Minimise the availability of pollutants to be entrained by stormwater runoff.

Isolate areas that pose a clear pollution risk so they do not drain into the stormwater system. This can be carried out by roofing the area (for example, a vehicle wash bay) or by using bunding and drainage to a collection point for re-use, treatment or disposal (see below). Ideally, all potentially polluting activities at industrial premises should be done in covered or (less preferably) bunded areas.

- Install a first flush collection system and associated drainage works to capture the most polluted portion of the site's stormwater runoff.

More than one first flush pit may be needed, depending on the drainage needs of the site (for example, there may be multiple discharge points).

- Re-use or dispose of first flush water quickly and properly.

It is important that, after it rains, the stormwater captured in the first flush collection pit is promptly re-used or disposed of before the catchment becomes re-contaminated.

Explore every opportunity to re-use the collected first flush water, so that it does not have to be put into the environment and potable water sources are conserved. Alkaline first flush water has been successfully re-used at concrete batching plants for many years. More recently, collected stormwater has been employed at a hot-mix bitumen emulsion plant and intensive horticultural premises.

First flush systems installed as recirculation dams at intensive agricultural sites like market gardens and nurseries clearly have the potential to re-use nutrient-rich stormwater for irrigation.

If it is not practicable to re-use the water beneficially it will have to be disposed of. The most acceptable disposal means are land application (in accordance with the DEC's Environmental Guidelines: Use of Effluent by Irrigation), or disposal into sewers in accordance with a Trade Waste Agreement with the local sewerage authority. Some pre-treatment may be necessary in each of these cases.

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Designing first flush systems

The following points should be considered in the design of a first-flush system. Some of these are illustrated in the "Typical First Flush Collection Pit" diagram.

- Barriers such as 'speed humps' may be used to isolate the surface area that is to drain to the first flush system. This will prevent the relatively uncontaminated water from 'clean' areas entering the first-flush system, and thereby keep the required volume of the pit to a minimum.
- To ensure contaminated first flush water is directed to the collection and subsequent clean runoff water is diverted to the stormwater system via the clean runoff bypass

channel once the first flush collection pit is full, either (a) a low weir across the entrance to the clean runoff bypass channel; or (b) the inlet channel leading to the collection pit slopes towards the collection pit so that the bottom of this channel is lower than the bottom of the clean runoff bypass channel.

- There must be adequate separation distance between the collected first flush water and the bypass channel, to minimise entrainment of captured stormwater by bypass flows. This is particularly important where hazardous materials are involved, including acid and alkaline materials.
- The volume of the collection pit must be big enough to capture most of the pollutant load expected from the catchment. The volume will be a function of the nature of the catchment surface (pervious or impervious) and the nature of the pollutant(s) expected. Unfortunately limited information on the amount of rainfall necessary to cleanse polluted surfaces is available. However, Table 1 below may help.
- A marker should be provided on the wall of the tank to indicate the level to which collected water needs to be pumped down to to ensure the required capacity is available for the next rain event. Additional volume will be required if it is expected that contaminants will accumulate at the bottom of the pit. As a guide, an additional depth of 500 mm or an additional volume of 30% of the required capacity should be provided.

If a below ground tank or pit is not feasible, an alternative solution may be to use a collection sump with a pump and float switch together with an above ground tank storage tank. A method for removing any contaminants that accumulate at the bottom of the tank would need to be provided. An existing stormwater pit could be used as a collection sump providing the outlet to stormwater in the pit is a suitable distance above the bottom of the pit.

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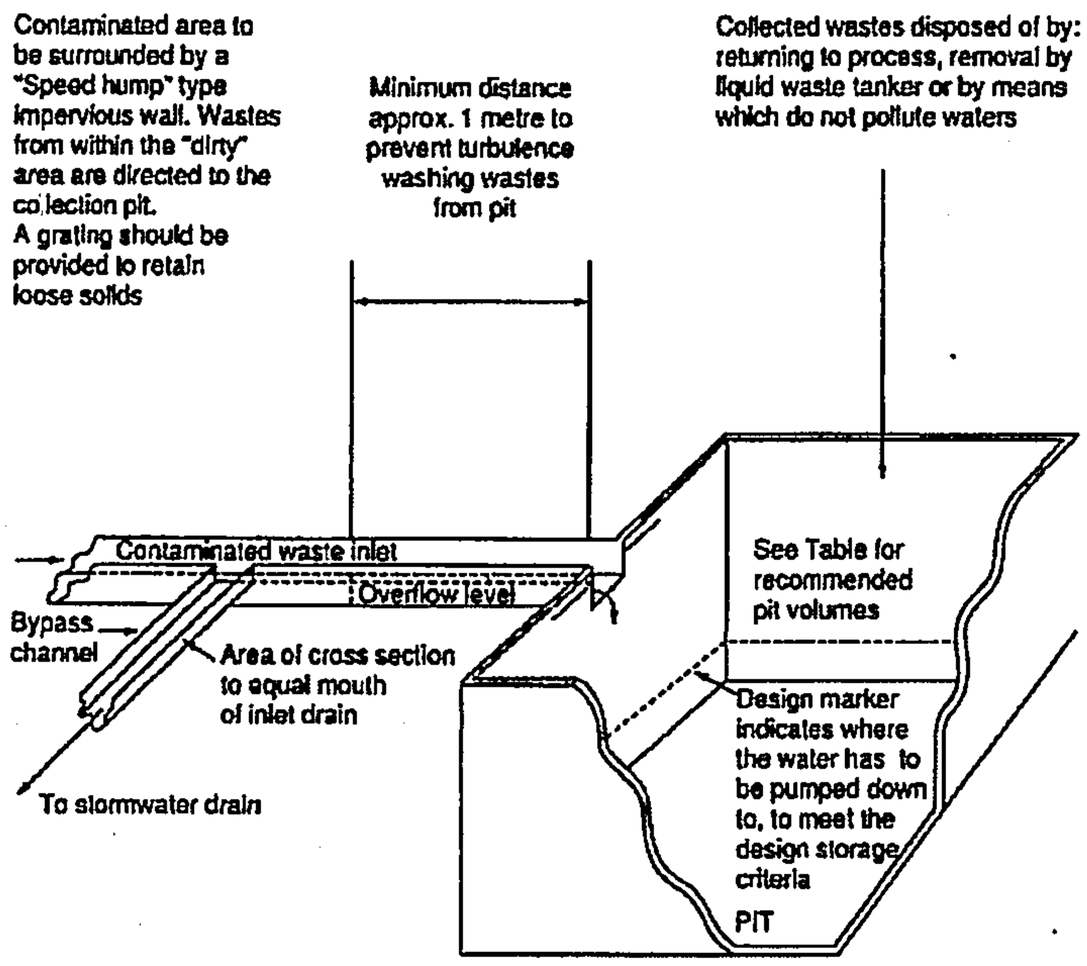
Typical First Flush Collection Pit



**First flush pit should have design capacity available at all times during periods of dry weather

Table 1: Design criteria for first flush containment systems

Pollutants	Catchment surface	Examples of industries	Rainfall level to be contained
Substances easily mobilised, such as soluble materials, fine dusts and silts	Impervious: concrete, cement, bitumen	Concrete batching plants	10 mm

Substances that are more difficult to mobilise, such as oil, grease and other non-volatile hydrocarbons	Impervious: concrete, cement, bitumen	Petrochemical plants, motor vehicle courtyards, chemical manufacturers, hot mix bitumen emulsion plants, roadways	15 mm
All types of pollutant	Pervious surfaces (including natural ground surface) that are not as easily cleansed of deposited pollutants	Market gardens, nurseries	20 mm

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Pollute waters

It is an offence under the section 120 of the Protection of the Environment Operations Act to pollute waters.

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Summary

First flush systems play an important role in the control of stormwater pollution, particularly if the drainage area is small and large parts of the catchment are impervious.

Wherever possible, first flush water should be re-used on site as make-up water or similar. Discharging treated first flush water to sewers or stormwater, usually after pre-treating it, is a less preferable means of disposal.

For first flush systems to work properly they must be properly designed and installed, and captured stormwater must be removed quickly before the source catchment becomes recontaminated with pollutants.

Officers should be aware of these design criteria so they can incorporate them into development controls.

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Further reading

For Authorised Officers:

Domestic wastewater and septic systems

EPA's Stormwater homepage

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Page last updated: 25 June 2013

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T1 CARLISLE CONDO                                                                    0
T2 FIRST FLUSH TANK TO CENTRAL
T3 (1) 8" PVC PIPE OUTFALL UPPER
SO   1000.0005200.900  1                          5201.210
R    1009.0005201.000  1      .014                                  .000
JX   1009.5005201.100  2      .013
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R    1063.3005203.370  2      .013                                  .000  45.000 0
R    1078.8005203.700  2      .013                                  .000  45.000 0
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R    1117.1005204.500  2      .013                                  .000     .000 0
SH   1117.1005204.500  2                          5205.600
CD   1  2   0    .000    .500    2.000  .000  .000   .00
CD   2  4   1    .000    .670     .000  .000  .000   .00
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Q            2.200   .0
Q            2.300   .0
Q            2.400   .0
Q            2.500   .0
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W S P G W - CIVILDESIGN Version 14.05

PAGE 1

Program Package Serial Number: 1454

WATER SURFACE PROFILE LISTING

Date: 8-28-2015 Time: 2:53:38

CARLISLE CONDO
FIRST FLUSH TANK TO CENTRAL
(1) 8" PVC PIPE OUTFALL UPPER

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1000.000	5200.900	.148	5201.048	2.10	7.11	.78	5201.83	.00	.32	2.00	.500	2.000	.00	0 .0
.789	.0111					.0729	.06	.15	3.26	.27	.014	.00	.00	RECTANG
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1.075	.0111					.0830	.09	.14	3.43	.27	.014	.00	.00	RECTANG
1001.864	5200.920	.136	5201.057	2.10	7.71	.92	5201.98	.00	.32	2.00	.500	2.000	.00	0 .0
1.006	.0111					.0966	.10	.14	3.68	.27	.014	.00	.00	RECTANG
1002.870	5200.932	.130	5201.062	2.10	8.09	1.02	5202.08	.00	.32	2.00	.500	2.000	.00	0 .0
.943	.0111					.1124	.11	.13	3.95	.27	.014	.00	.00	RECTANG
1003.813	5200.942	.124	5201.066	2.10	8.48	1.12	5202.18	.00	.32	2.00	.500	2.000	.00	0 .0
.885	.0111					.1308	.12	.12	4.25	.27	.014	.00	.00	RECTANG
1004.698	5200.952	.118	5201.070	2.10	8.89	1.23	5202.30	.00	.32	2.00	.500	2.000	.00	0 .0
.831	.0111					.1523	.13	.12	4.56	.27	.014	.00	.00	RECTANG
1005.530	5200.961	.113	5201.074	2.10	9.33	1.35	5202.42	.00	.32	2.00	.500	2.000	.00	0 .0
.781	.0111					.1774	.14	.11	4.90	.27	.014	.00	.00	RECTANG
1006.311	5200.970	.107	5201.077	2.10	9.78	1.49	5202.56	.00	.32	2.00	.500	2.000	.00	0 .0
.735	.0111					.2066	.15	.11	5.26	.27	.014	.00	.00	RECTANG
1007.046	5200.978	.102	5201.081	2.10	10.26	1.64	5202.72	.00	.32	2.00	.500	2.000	.00	0 .0
.691	.0111					.2408	.17	.10	5.65	.27	.014	.00	.00	RECTANG
1007.737	5200.986	.098	5201.083	2.10	10.76	1.80	5202.88	.00	.32	2.00	.500	2.000	.00	0 .0
.651	.0111					.2806	.18	.10	6.07	.27	.014	.00	.00	RECTANG
1008.388	5200.993	.093	5201.086	2.10	11.29	1.98	5203.06	.00	.32	2.00	.500	2.000	.00	0 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
.612	.0111					.3272	.20	.09	6.52	.27	.014	.00	.00	RECTANG
1009.000	5201.000	.089	5201.089	2.10	11.84	2.18	5203.27	.00	.32	2.00	.500	2.000	.00	0 .0
JUNCT STR	.2002					.2004	.10	.09	7.01		.013	.00	.00	RECTANG
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
1009.500	5201.099	.355	5201.454	2.10	11.08	1.91	5203.36	.00	.63	.67	.670	.000	.00	1 .0
.226	.4799					.0936	.02	.35	3.67	.23	.013	.00	.00	PIPE
1009.726	5201.208	.362	5201.570	2.10	10.78	1.81	5203.38	.00	.63	.67	.670	.000	.00	1 .0
.380	.4799					.0849	.03	.36	3.52	.23	.013	.00	.00	PIPE
1010.106	5201.390	.376	5201.766	2.10	10.28	1.64	5203.41	.00	.63	.66	.670	.000	.00	1 .0
.331	.4799					.0750	.02	.38	3.27	.23	.013	.00	.00	PIPE
1010.437	5201.549	.391	5201.940	2.10	9.80	1.49	5203.43	.00	.63	.66	.670	.000	.00	1 .0
.289	.4799					.0663	.02	.39	3.03	.23	.013	.00	.00	PIPE
1010.726	5201.688	.407	5202.095	2.10	9.35	1.36	5203.45	.00	.63	.65	.670	.000	.00	1 .0
.252	.4799					.0587	.01	.41	2.81	.23	.013	.00	.00	PIPE
1010.979	5201.809	.424	5202.233	2.10	8.91	1.23	5203.47	.00	.63	.65	.670	.000	.00	1 .0
.220	.4799					.0521	.01	.42	2.60	.23	.013	.00	.00	PIPE
1011.199	5201.915	.442	5202.356	2.10	8.50	1.12	5203.48	.00	.63	.63	.670	.000	.00	1 .0
.191	.4799					.0463	.01	.44	2.40	.23	.013	.00	.00	PIPE
1011.390	5202.006	.461	5202.467	2.10	8.10	1.02	5203.49	.00	.63	.62	.670	.000	.00	1 .0
.163	.4799					.0413	.01	.46	2.21	.23	.013	.00	.00	PIPE
1011.553	5202.085	.482	5202.567	2.10	7.72	.93	5203.49	.00	.63	.60	.670	.000	.00	1 .0
.138	.4799					.0369	.01	.48	2.03	.23	.013	.00	.00	PIPE
1011.692	5202.151	.505	5202.656	2.10	7.36	.84	5203.50	.00	.63	.58	.670	.000	.00	1 .0
.118	.4799					.0332	.00	.51	1.85	.23	.013	.00	.00	PIPE
1011.809	5202.208	.529	5202.737	2.10	7.02	.77	5203.50	.00	.63	.55	.670	.000	.00	1 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
.092	.4799					.0300	.00	.53	1.67	.23	.013	.00	.00	PIPE
1011.902	5202.252	.557	5202.810	2.10	6.70	.70	5203.51	.00	.63	.50	.670	.000	.00	1 .0
.067	.4799					.0275	.00	.56	1.49	.23	.013	.00	.00	PIPE
1011.969	5202.285	.590	5202.875	2.10	6.38	.63	5203.51	.00	.63	.43	.670	.000	.00	1 .0
.031	.4799					.0259	.00	.59	1.29	.23	.013	.00	.00	PIPE
1012.000	5202.300	.634	5202.934	2.10	6.08	.57	5203.51	.00	.63	.30	.670	.000	.00	1 .0
2.525	.0210					.0259	.07	.63	1.00	.67	.013	.00	.00	PIPE
1014.525	5202.353	.670	5203.023	2.10	5.96	.55	5203.57	.00	.63	.00	.670	.000	.00	1 .0
46.475	.0210					.0279	1.30	.67	.00	.67	.013	.00	.00	PIPE
1061.000	5203.330	1.060	5204.390	2.10	5.96	.55	5204.94	.00	.63	.00	.670	.000	.00	1 .0
2.300	.0174					.0294	.07	1.06	.00	.67	.013	.00	.00	PIPE
1063.300	5203.370	1.169	5204.539	2.10	5.96	.55	5205.09	.00	.63	.00	.670	.000	.00	1 .0
15.500	.0213					.0294	.46	1.17	.00	.67	.013	.00	.00	PIPE
1078.800	5203.700	1.376	5205.077	2.10	5.96	.55	5205.63	.00	.63	.00	.670	.000	.00	1 .0
5.300	.0207					.0294	.16	1.38	.00	.67	.013	.00	.00	PIPE
1084.100	5203.810	1.504	5205.314	2.10	5.96	.55	5205.87	.00	.63	.00	.670	.000	.00	1 .0
33.000	.0209					.0294	.97	1.50	.00	.67	.013	.00	.00	PIPE
1117.100	5204.500	1.785	5206.285	2.10	5.96	.55	5206.84	.00	.63	.00	.670	.000	.00	1 .0
1000.000	5200.900	.151	5201.050	2.20	7.30	.83	5201.88	.00	.33	2.00	.500	2.000	.00	0 .0
.428	.0111					.0733	.03	.15	3.32	.27	.014	.00	.00	RECTANG
1000.428	5200.905	.148	5201.053	2.20	7.43	.86	5201.91	.00	.33	2.00	.500	2.000	.00	0 .0
1.122	.0111					.0815	.09	.15	3.41	.27	.014	.00	.00	RECTANG
1001.550	5200.917	.141	5201.059	2.20	7.80	.94	5202.00	.00	.33	2.00	.500	2.000	.00	0 .0
1.050	.0111					.0948	.10	.14	3.66	.27	.014	.00	.00	RECTANG

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1002.600	5200.929	.135	5201.063	2.20	8.18	1.04	5202.10	.00	.33	2.00	.500	2.000	.00	0 .0
.984	.0111					.1102	.11	.13	3.93	.27	.014	.00	.00	RECTANG
1003.585	5200.940	.128	5201.068	2.20	8.58	1.14	5202.21	.00	.33	2.00	.500	2.000	.00	0 .0
.924	.0111					.1283	.12	.13	4.22	.27	.014	.00	.00	RECTANG
1004.509	5200.950	.122	5201.072	2.20	9.00	1.26	5202.33	.00	.33	2.00	.500	2.000	.00	0 .0
.868	.0111					.1494	.13	.12	4.53	.27	.014	.00	.00	RECTANG
1005.376	5200.960	.117	5201.077	2.20	9.43	1.38	5202.46	.00	.33	2.00	.500	2.000	.00	0 .0
.816	.0111					.1739	.14	.12	4.87	.27	.014	.00	.00	RECTANG
1006.192	5200.969	.111	5201.081	2.20	9.90	1.52	5202.60	.00	.33	2.00	.500	2.000	.00	0 .0
.767	.0111					.2026	.16	.11	5.23	.27	.014	.00	.00	RECTANG
1006.959	5200.978	.106	5201.083	2.20	10.38	1.67	5202.76	.00	.33	2.00	.500	2.000	.00	0 .0
.722	.0111					.2360	.17	.11	5.62	.27	.014	.00	.00	RECTANG
1007.681	5200.985	.101	5201.086	2.20	10.88	1.84	5202.93	.00	.33	2.00	.500	2.000	.00	0 .0
.679	.0111					.2750	.19	.10	6.03	.27	.014	.00	.00	RECTANG
1008.361	5200.993	.096	5201.089	2.20	11.42	2.02	5203.11	.00	.33	2.00	.500	2.000	.00	0 .0
.639	.0111					.3206	.20	.10	6.48	.27	.014	.00	.00	RECTANG
1009.000	5201.000	.092	5201.092	2.20	11.97	2.23	5203.32	.00	.33	2.00	.500	2.000	.00	0 .0
JUNCT STR	.2002					.1971	.10	.09	6.96		.013	.00	.00	RECTANG

---------- WARNING - Junction Analysis - Change in Channel Type ----------

1009.500	5201.100	.365	5201.465	2.20	11.19	1.94	5203.41	.00	.64	.67	.670	.000	.00	1 .0
.374	.4799					.0915	.03	.37	3.63	.23	.013	.00	.00	PIPE
1009.874	5201.280	.378	5201.658	2.20	10.72	1.78	5203.44	.00	.64	.66	.670	.000	.00	1 .0
.369	.4799					.0814	.03	.38	3.40	.23	.013	.00	.00	PIPE
1010.243	5201.457	.393	5201.850	2.20	10.22	1.62	5203.47	.00	.64	.66	.670	.000	.00	1 .0
.322	.4799					.0720	.02	.39	3.15	.23	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1010.566	5201.612	.409	5202.021	2.20	9.75	1.47	5203.50	.00	.64	.65	.670	.000	.00	1 .0
.281	.4799					.0637	.02	.41	2.92	.23	.013	.00	.00	PIPE
1010.847	5201.747	.426	5202.173	2.20	9.29	1.34	5203.51	.00	.64	.64	.670	.000	.00	1 .0
.245	.4799					.0565	.01	.43	2.70	.23	.013	.00	.00	PIPE
1011.092	5201.864	.444	5202.309	2.20	8.86	1.22	5203.53	.00	.64	.63	.670	.000	.00	1 .0
.214	.4799					.0503	.01	.44	2.49	.23	.013	.00	.00	PIPE
1011.306	5201.967	.463	5202.430	2.20	8.45	1.11	5203.54	.00	.64	.62	.670	.000	.00	1 .0
.183	.4799					.0448	.01	.46	2.30	.23	.013	.00	.00	PIPE
1011.489	5202.055	.484	5202.539	2.20	8.05	1.01	5203.55	.00	.64	.60	.670	.000	.00	1 .0
.156	.4799					.0401	.01	.48	2.10	.23	.013	.00	.00	PIPE
1011.645	5202.129	.507	5202.637	2.20	7.68	.92	5203.55	.00	.64	.57	.670	.000	.00	1 .0
.131	.4799					.0361	.00	.51	1.92	.23	.013	.00	.00	PIPE
1011.777	5202.192	.532	5202.725	2.20	7.32	.83	5203.56	.00	.64	.54	.670	.000	.00	1 .0
.107	.4799					.0326	.00	.53	1.73	.23	.013	.00	.00	PIPE
1011.883	5202.244	.560	5202.804	2.20	6.98	.76	5203.56	.00	.64	.50	.670	.000	.00	1 .0
.077	.4799					.0300	.00	.56	1.54	.23	.013	.00	.00	PIPE
1011.961	5202.281	.594	5202.875	2.20	6.66	.69	5203.56	.00	.64	.42	.670	.000	.00	1 .0
.039	.4799					.0284	.00	.59	1.33	.23	.013	.00	.00	PIPE
1012.000	5202.300	.640	5202.939	2.20	6.34	.62	5203.56	.00	.64	.28	.670	.000	.00	1 .0
1.386	.0210					.0285	.04	.64	1.00	.67	.013	.00	.00	PIPE
1013.386	5202.329	.670	5202.999	2.20	6.24	.60	5203.60	.00	.64	.00	.670	.000	.00	1 .0
47.614	.0210					.0306	1.46	.67	.00	.67	.013	.00	.00	PIPE
1061.000	5203.330	1.206	5204.536	2.20	6.24	.60	5205.14	.00	.64	.00	.670	.000	.00	1 .0
2.300	.0174					.0323	.07	1.21	.00	.67	.013	.00	.00	PIPE
1063.300	5203.370	1.330	5204.700	2.20	6.24	.60	5205.30	.00	.64	.00	.670	.000	.00	1 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
15.500	.0213					.0323	.50	1.33	.00	.67	.013	.00	.00	PIPE
1078.800	5203.700	1.590	5205.290	2.20	6.24	.60	5205.89	.00	.64	.00	.670	.000	.00	1 .0
5.300	.0207					.0323	.17	1.59	.00	.67	.013	.00	.00	PIPE
1084.100	5203.810	1.740	5205.550	2.20	6.24	.60	5206.15	.00	.64	.00	.670	.000	.00	1 .0
33.000	.0209					.0323	1.07	1.74	.00	.67	.013	.00	.00	PIPE
1117.100	5204.500	2.115	5206.615	2.20	6.24	.60	5207.22	.00	.64	.00	.670	.000	.00	1 .0
1000.000	5200.900	.153	5201.053	2.30	7.51	.88	5201.93	.00	.35	2.00	.500	2.000	.00	0 .0
.106	.0111					.0743	.01	.15	3.38	.28	.014	.00	.00	RECTANG
1000.106	5200.901	.153	5201.053	2.30	7.54	.88	5201.94	.00	.35	2.00	.500	2.000	.00	0 .0
1.164	.0111					.0809	.09	.15	3.40	.28	.014	.00	.00	RECTANG
1001.270	5200.914	.145	5201.060	2.30	7.91	.97	5202.03	.00	.35	2.00	.500	2.000	.00	0 .0
1.089	.0111					.0940	.10	.15	3.65	.28	.014	.00	.00	RECTANG
1002.359	5200.926	.139	5201.065	2.30	8.29	1.07	5202.13	.00	.35	2.00	.500	2.000	.00	0 .0
1.021	.0111					.1094	.11	.14	3.92	.28	.014	.00	.00	RECTANG
1003.380	5200.938	.132	5201.070	2.30	8.70	1.17	5202.24	.00	.35	2.00	.500	2.000	.00	0 .0
.958	.0111					.1272	.12	.13	4.21	.28	.014	.00	.00	RECTANG
1004.339	5200.948	.126	5201.074	2.30	9.12	1.29	5202.37	.00	.35	2.00	.500	2.000	.00	0 .0
.900	.0111					.1481	.13	.13	4.53	.28	.014	.00	.00	RECTANG
1005.239	5200.958	.120	5201.079	2.30	9.57	1.42	5202.50	.00	.35	2.00	.500	2.000	.00	0 .0
.846	.0111					.1724	.15	.12	4.86	.28	.014	.00	.00	RECTANG
1006.086	5200.968	.115	5201.083	2.30	10.03	1.56	5202.65	.00	.35	2.00	.500	2.000	.00	0 .0
.796	.0111					.2008	.16	.11	5.22	.28	.014	.00	.00	RECTANG
1006.882	5200.977	.109	5201.086	2.30	10.52	1.72	5202.81	.00	.35	2.00	.500	2.000	.00	0 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
.749	.0111					.2339	.18	.11	5.61	.28	.014	.00	.00	RECTANG
1007.631	5200.985	.104	5201.089	2.30	11.04	1.89	5202.98	.00	.35	2.00	.500	2.000	.00	0 .0
.705	.0111					.2725	.19	.10	6.03	.28	.014	.00	.00	RECTANG
1008.336	5200.993	.099	5201.092	2.30	11.58	2.08	5203.17	.00	.35	2.00	.500	2.000	.00	0 .0
.664	.0111					.3176	.21	.10	6.47	.28	.014	.00	.00	RECTANG
1009.000	5201.000	.095	5201.095	2.30	12.14	2.29	5203.38	.00	.35	2.00	.500	2.000	.00	0 .0
JUNCT STR	.2002					.1959	.10	.09	6.95		.013	.00	.00	RECTANG
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
1009.500	5201.100	.375	5201.475	2.30	11.32	1.99	5203.47	.00	.64	.67	.670	.000	.00	1 .0
.123	.4799					.0953	.01	.38	3.61	.24	.013	.00	.00	PIPE
1009.623	5201.159	.379	5201.538	2.30	11.17	1.94	5203.47	.00	.64	.66	.670	.000	.00	1 .0
.411	.4799					.0881	.04	.38	3.53	.24	.013	.00	.00	PIPE
1010.034	5201.356	.394	5201.750	2.30	10.65	1.76	5203.51	.00	.64	.66	.670	.000	.00	1 .0
.358	.4799					.0779	.03	.39	3.28	.24	.013	.00	.00	PIPE
1010.392	5201.528	.410	5201.938	2.30	10.15	1.60	5203.54	.00	.64	.65	.670	.000	.00	1 .0
.313	.4799					.0690	.02	.41	3.04	.24	.013	.00	.00	PIPE
1010.705	5201.678	.427	5202.105	2.30	9.68	1.45	5203.56	.00	.64	.64	.670	.000	.00	1 .0
.273	.4799					.0612	.02	.43	2.81	.24	.013	.00	.00	PIPE
1010.978	5201.809	.445	5202.254	2.30	9.23	1.32	5203.58	.00	.64	.63	.670	.000	.00	1 .0
.236	.4799					.0545	.01	.45	2.59	.24	.013	.00	.00	PIPE
1011.214	5201.922	.465	5202.388	2.30	8.80	1.20	5203.59	.00	.64	.62	.670	.000	.00	1 .0
.205	.4799					.0486	.01	.47	2.38	.24	.013	.00	.00	PIPE
1011.418	5202.021	.486	5202.507	2.30	8.39	1.09	5203.60	.00	.64	.60	.670	.000	.00	1 .0
.175	.4799					.0435	.01	.49	2.18	.24	.013	.00	.00	PIPE
1011.593	5202.104	.509	5202.614	2.30	8.00	.99	5203.61	.00	.64	.57	.670	.000	.00	1 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
.148	.4799					.0391	.01	.51	1.99	.24	.013	.00	.00	PIPE
1011.742	5202.176	.534	5202.710	2.30	7.63	.90	5203.61	.00	.64	.54	.670	.000	.00	1 .0
.120	.4799					.0355	.00	.53	1.80	.24	.013	.00	.00	PIPE
1011.861	5202.233	.563	5202.796	2.30	7.27	.82	5203.62	.00	.64	.49	.670	.000	.00	1 .0
.093	.4799					.0325	.00	.56	1.60	.24	.013	.00	.00	PIPE
1011.954	5202.278	.596	5202.874	2.30	6.93	.75	5203.62	.00	.64	.42	.670	.000	.00	1 .0
.046	.4799					.0310	.00	.60	1.37	.24	.013	.00	.00	PIPE
1012.000	5202.300	.644	5202.944	2.30	6.61	.68	5203.62	.00	.64	.26	.670	.000	.00	1 .0
.855	.0210					.0312	.03	.64	1.00	.67	.013	.00	.00	PIPE
1012.855	5202.318	.670	5202.988	2.30	6.52	.66	5203.65	.00	.64	.00	.670	.000	.00	1 .0
1061.000	5203.330	1.356	5204.686	2.30	6.52	.66	5205.35	.00	.64	.00	.670	.000	.00	1 .0
2.300	.0174					.0353	.08	1.36	.00	.67	.013	.00	.00	PIPE
1063.300	5203.370	1.495	5204.865	2.30	6.52	.66	5205.53	.00	.64	.00	.670	.000	.00	1 .0
15.500	.0213					.0353	.55	1.50	.00	.67	.013	.00	.00	PIPE
1078.800	5203.700	1.810	5205.510	2.30	6.52	.66	5206.17	.00	.64	.00	.670	.000	.00	1 .0
5.300	.0207					.0353	.19	1.81	.00	.67	.013	.00	.00	PIPE
1084.100	5203.810	1.985	5205.795	2.30	6.52	.66	5206.46	.00	.64	.00	.670	.000	.00	1 .0
33.000	.0209					.0353	1.16	1.99	.00	.67	.013	.00	.00	PIPE
1117.100	5204.500	2.459	5206.959	2.30	6.52	.66	5207.62	.00	.64	.00	.670	.000	.00	1 .0
1000.000	5200.899	.156	5201.056	2.40	7.68	.92	5201.97	.00	.36	2.00	.500	2.000	.00	0 .0
.955	.0111					.0805	.08	.16	3.43	.29	.014	.00	.00	RECTANG
1000.955	5200.910	.150	5201.061	2.40	7.98	.99	5202.05	.00	.36	2.00	.500	2.000	.00	0 .0
1.133	.0111					.0923	.10	.15	3.63	.29	.014	.00	.00	RECTANG
1002.089	5200.923	.143	5201.066	2.40	8.37	1.09	5202.16	.00	.36	2.00	.500	2.000	.00	0 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1.063	.0111					.1073	.11	.14	3.90	.29	.014	.00	.00	RECTANG
1003.151	5200.935	.137	5201.071	2.40	8.78	1.20	5202.27	.00	.36	2.00	.500	2.000	.00	0 .0
.997	.0111					.1248	.12	.14	4.19	.29	.014	.00	.00	RECTANG
1004.149	5200.946	.130	5201.076	2.40	9.21	1.32	5202.39	.00	.36	2.00	.500	2.000	.00	0 .0
.937	.0111					.1453	.14	.13	4.50	.29	.014	.00	.00	RECTANG
1005.086	5200.956	.124	5201.080	2.40	9.66	1.45	5202.53	.00	.36	2.00	.500	2.000	.00	0 .0
.881	.0111					.1691	.15	.12	4.83	.29	.014	.00	.00	RECTANG
1005.967	5200.966	.118	5201.084	2.40	10.13	1.59	5202.68	.00	.36	2.00	.500	2.000	.00	0 .0
.829	.0111					.1969	.16	.12	5.19	.29	.014	.00	.00	RECTANG
1006.795	5200.975	.113	5201.088	2.40	10.63	1.75	5202.84	.00	.36	2.00	.500	2.000	.00	0 .0
.780	.0111					.2293	.18	.11	5.57	.29	.014	.00	.00	RECTANG
1007.575	5200.984	.108	5201.091	2.40	11.15	1.93	5203.02	.00	.36	2.00	.500	2.000	.00	0 .0
.734	.0111					.2671	.20	.11	5.99	.29	.014	.00	.00	RECTANG
1008.309	5200.992	.103	5201.095	2.40	11.69	2.12	5203.22	.00	.36	2.00	.500	2.000	.00	0 .0
.691	.0111					.3113	.22	.10	6.43	.29	.014	.00	.00	RECTANG
1009.000	5201.000	.098	5201.098	2.40	12.26	2.33	5203.43	.00	.36	2.00	.500	2.000	.00	0 .0
JUNCT STR	.2002					.1932	.10	.10	6.91		.013	.00	.00	RECTANG
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
1009.500	5201.101	.385	5201.485	2.40	11.46	2.04	5203.52	.00	.65	.66	.670	.000	.00	1 .0
.306	.4799					.0935	.03	.38	3.59	.24	.013	.00	.00	PIPE
1009.806	5201.247	.395	5201.642	2.40	11.08	1.91	5203.55	.00	.65	.66	.670	.000	.00	1 .0
.398	.4799					.0842	.03	.40	3.41	.24	.013	.00	.00	PIPE
1010.203	5201.438	.411	5201.849	2.40	10.56	1.73	5203.58	.00	.65	.65	.670	.000	.00	1 .0
.347	.4799					.0746	.03	.41	3.16	.24	.013	.00	.00	PIPE
1010.550	5201.604	.428	5202.033	2.40	10.07	1.58	5203.61	.00	.65	.64	.670	.000	.00	1 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
.303	.4799					.0662	.02	.43	2.92	.24	.013	.00	.00	PIPE
1010.853	5201.750	.446	5202.196	2.40	9.60	1.43	5203.63	.00	.65	.63	.670	.000	.00	1 .0
.262	.4799					.0589	.02	.45	2.69	.24	.013	.00	.00	PIPE
1011.115	5201.875	.466	5202.341	2.40	9.16	1.30	5203.64	.00	.65	.62	.670	.000	.00	1 .0
.228	.4799					.0525	.01	.47	2.48	.24	.013	.00	.00	PIPE
1011.342	5201.984	.487	5202.472	2.40	8.73	1.18	5203.66	.00	.65	.60	.670	.000	.00	1 .0
.195	.4799					.0470	.01	.49	2.27	.24	.013	.00	.00	PIPE
1011.538	5202.078	.510	5202.588	2.40	8.32	1.08	5203.66	.00	.65	.57	.670	.000	.00	1 .0
.164	.4799					.0423	.01	.51	2.06	.24	.013	.00	.00	PIPE
1011.702	5202.157	.536	5202.693	2.40	7.94	.98	5203.67	.00	.65	.54	.670	.000	.00	1 .0
.138	.4799					.0384	.01	.54	1.86	.24	.013	.00	.00	PIPE
1011.840	5202.223	.564	5202.787	2.40	7.57	.89	5203.68	.00	.65	.49	.670	.000	.00	1 .0
.103	.4799					.0353	.00	.56	1.66	.24	.013	.00	.00	PIPE
1011.943	5202.272	.599	5202.872	2.40	7.22	.81	5203.68	.00	.65	.41	.670	.000	.00	1 .0
.057	.4799					.0339	.00	.60	1.42	.24	.013	.00	.00	PIPE
1012.000	5202.300	.648	5202.948	2.40	6.88	.73	5203.68	.00	.65	.24	.670	.000	.00	1 .0
.566	.0210					.0341	.02	.65	1.00	.67	.013	.00	.00	PIPE
1012.566	5202.312	.670	5202.981	2.40	6.81	.72	5203.70	.00	.65	.00	.670	.000	.00	1 .0
48.434	.0210					.0364	1.76	.67	.00	.67	.013	.00	.00	PIPE
1061.000	5203.330	1.512	5204.842	2.40	6.81	.72	5205.56	.00	.65	.00	.670	.000	.00	1 .0
2.300	.0174					.0384	.09	1.51	.00	.67	.013	.00	.00	PIPE
1063.300	5203.370	1.667	5205.038	2.40	6.81	.72	5205.76	.00	.65	.00	.670	.000	.00	1 .0
15.500	.0213					.0384	.60	1.67	.00	.67	.013	.00	.00	PIPE
1078.800	5203.700	2.040	5205.740	2.40	6.81	.72	5206.46	.00	.65	.00	.670	.000	.00	1 .0

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
5.300	.0207					.0384	.20	2.04	.00	.67	.013	.00	.00	PIPE
1084.100	5203.810	2.240	5206.050	2.40	6.81	.72	5206.77	.00	.65	.00	.670	.000	.00	1 .0
33.000	.0209					.0384	1.27	2.24	.00	.67	.013	.00	.00	PIPE
1117.100	5204.500	2.818	5207.318	2.40	6.81	.72	5208.04	.00	.65	.00	.670	.000	.00	1 .0
1000.000	5200.900	.159	5201.059	2.50	7.88	.96	5202.02	.00	.36	2.00	.500	2.000	.00	0 .0
.683	.0111					.0814	.06	.16	3.48	.30	.014	.00	.00	RECTANG
1000.683	5200.908	.155	5201.062	2.50	8.09	1.02	5202.08	.00	.36	2.00	.500	2.000	.00	0 .0
1.171	.0111					.0917	.11	.15	3.63	.30	.014	.00	.00	RECTANG
1001.854	5200.921	.147	5201.068	2.50	8.48	1.12	5202.19	.00	.36	2.00	.500	2.000	.00	0 .0
1.098	.0111					.1066	.12	.15	3.90	.30	.014	.00	.00	RECTANG
1002.952	5200.933	.140	5201.074	2.50	8.90	1.23	5202.30	.00	.36	2.00	.500	2.000	.00	0 .0
1.031	.0111					.1240	.13	.14	4.18	.30	.014	.00	.00	RECTANG
1003.983	5200.944	.134	5201.078	2.50	9.33	1.35	5202.43	.00	.36	2.00	.500	2.000	.00	0 .0
.969	.0111					.1443	.14	.13	4.49	.30	.014	.00	.00	RECTANG
1004.952	5200.955	.128	5201.083	2.50	9.79	1.49	5202.57	.00	.36	2.00	.500	2.000	.00	0 .0
.911	.0111					.1679	.15	.13	4.83	.30	.014	.00	.00	RECTANG
1005.863	5200.965	.122	5201.087	2.50	10.27	1.64	5202.72	.00	.36	2.00	.500	2.000	.00	0 .0
.857	.0111					.1955	.17	.12	5.18	.30	.014	.00	.00	RECTANG
1006.720	5200.975	.116	5201.091	2.50	10.77	1.80	5202.89	.00	.36	2.00	.500	2.000	.00	0 .0
.806	.0111					.2277	.18	.12	5.57	.30	.014	.00	.00	RECTANG
1007.526	5200.984	.111	5201.095	2.50	11.29	1.98	5203.07	.00	.36	2.00	.500	2.000	.00	0 .0
.759	.0111					.2652	.20	.11	5.98	.30	.014	.00	.00	RECTANG
1008.285	5200.992	.106	5201.098	2.50	11.84	2.18	5203.28	.00	.36	2.00	.500	2.000	.00	0 .0
.715	.0111					.3089	.22	.11	6.42	.30	.014	.00	.00	RECTANG

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1009.000	5201.000	.101	5201.101	2.50	12.42	2.40	5203.50	.00	.36	2.00	.500	2.000	.00	0 .0
JUNCT STR	.2002					.1923	.10	.10	6.90		.013	.00	.00	RECTANG
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
1009.500	5201.100	.394	5201.495	2.50	11.58	2.08	5203.58	.00	.65	.66	.670	.000	.00	1 .0
.058	.4799					.0973	.01	.39	3.57	.25	.013	.00	.00	PIPE
1009.558	5201.128	.396	5201.524	2.50	11.52	2.06	5203.58	.00	.65	.66	.670	.000	.00	1 .0
.440	.4799					.0910	.04	.40	3.54	.25	.013	.00	.00	PIPE
1009.998	5201.339	.412	5201.751	2.50	10.98	1.87	5203.62	.00	.65	.65	.670	.000	.00	1 .0
.384	.4799					.0806	.03	.41	3.28	.25	.013	.00	.00	PIPE
1010.382	5201.523	.429	5201.953	2.50	10.47	1.70	5203.65	.00	.65	.64	.670	.000	.00	1 .0
.335	.4799					.0715	.02	.43	3.03	.25	.013	.00	.00	PIPE
1010.717	5201.684	.447	5202.131	2.50	9.98	1.55	5203.68	.00	.65	.63	.670	.000	.00	1 .0
.290	.4799					.0636	.02	.45	2.79	.25	.013	.00	.00	PIPE
1011.007	5201.823	.467	5202.291	2.50	9.52	1.41	5203.70	.00	.65	.62	.670	.000	.00	1 .0
.253	.4799					.0567	.01	.47	2.57	.25	.013	.00	.00	PIPE
1011.259	5201.944	.488	5202.433	2.50	9.08	1.28	5203.71	.00	.65	.60	.670	.000	.00	1 .0
.217	.4799					.0508	.01	.49	2.35	.25	.013	.00	.00	PIPE
1011.477	5202.049	.511	5202.560	2.50	8.65	1.16	5203.72	.00	.65	.57	.670	.000	.00	1 .0
.184	.4799					.0457	.01	.51	2.14	.25	.013	.00	.00	PIPE
1011.660	5202.137	.537	5202.674	2.50	8.25	1.06	5203.73	.00	.65	.53	.670	.000	.00	1 .0
.153	.4799					.0415	.01	.54	1.93	.25	.013	.00	.00	PIPE
1011.813	5202.210	.566	5202.776	2.50	7.87	.96	5203.74	.00	.65	.49	.670	.000	.00	1 .0
.121	.4799					.0382	.00	.57	1.71	.25	.013	.00	.00	PIPE
1011.934	5202.268	.600	5202.868	2.50	7.50	.87	5203.74	.00	.65	.41	.670	.000	.00	1 .0
.066	.4799					.0368	.00	.60	1.47	.25	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1012.000	5202.300	.651	5202.951	2.50	7.15	.79	5203.74	.00	.65	.22	.670	.000	.00	1 .0
.392	.0210					.0371	.01	.65	1.00	.67	.013	.00	.00	PIPE
1012.392	5202.308	.670	5202.978	2.50	7.09	.78	5203.76	.00	.65	.00	.670	.000	.00	1 .0
48.608	.0210					.0395	1.92	.67	.00	.67	.013	.00	.00	PIPE
1061.000	5203.330	1.674	5205.004	2.50	7.09	.78	5205.78	.00	.65	.00	.670	.000	.00	1 .0
2.300	.0174					.0417	.10	1.67	.00	.67	.013	.00	.00	PIPE
1063.300	5203.370	1.846	5205.216	2.50	7.09	.78	5206.00	.00	.65	.00	.670	.000	.00	1 .0
15.500	.0213					.0417	.65	1.85	.00	.67	.013	.00	.00	PIPE
1078.800	5203.700	2.278	5205.978	2.50	7.09	.78	5206.76	.00	.65	.00	.670	.000	.00	1 .0
5.300	.0207					.0417	.22	2.28	.00	.67	.013	.00	.00	PIPE
1084.100	5203.810	2.504	5206.314	2.50	7.09	.78	5207.10	.00	.65	.00	.670	.000	.00	1 .0
33.000	.0209					.0417	1.38	2.50	.00	.67	.013	.00	.00	PIPE
1117.100	5204.500	3.190	5207.690	2.50	7.09	.78	5208.47	.00	.65	.00	.670	.000	.00	1 .0

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    AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
         RUN DATE (MON/DAY/YR) = 08/17/2015
         START TIME (HR:MIN:SEC) = 11:01:16     USER NO.= M-GoodwinNMSiteA90075759
         INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCONDO.DAT

*S*************************************************************
*S
*S                    CARLISLE CONDOMINIUMS
*S                    100 YEAR 6 HOUR STORM EVENT
*S
*S                    FILE: CCONDO.DAT
*S                    LAST REVISED: 6-16-15
*S                    NOAA ATLAS 2, VOL IV ZONE N 9
START                 TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
LOCATION              NEW MEXICO
     State of New Mexico soil infiltration values (LAND FACTORS) used for computations.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
           A            0.65                  1.67
           B            0.50                  1.25
           C            0.35                  0.83
           D            0.10                  0.04

RAINFALL              TYPE=1 RAIN QUARTER=0.0
                      RAIN ONE=2.00 IN RAIN SIX=2.30 IN
                      RAIN DAY=2.65 IN DT=0.0333 HRS

                 6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                 DT =   0.033300 HOURS       END TIME =     5.994000 HOURS
                   0.0000  0.0013  0.0027  0.0041  0.0056  0.0070  0.0087
                   0.0104  0.0121  0.0140  0.0159  0.0199  0.0239  0.0282
                   0.0328  0.0373  0.0423  0.0472  0.0523  0.0576  0.0628
                   0.0683  0.0738  0.0796  0.0858  0.0920  0.0990  0.1061
                   0.1189  0.1381  0.1574  0.1830  0.2088  0.2395  0.2756
                   0.3117  0.3653  0.4195  0.4919  0.5856  0.6792  0.9223
                   1.1717  1.3702  1.5085  1.6467  1.7193  1.7887  1.8466
                   1.8903  1.9340  1.9651  1.9954  2.0221  2.0443  2.0665
                   2.0836  2.1004  2.1127  2.1193  2.1259  2.1317  2.1376
                   2.1429  2.1477  2.1524  2.1568  2.1611  2.1654  2.1696
                   2.1738  2.1759  2.1780  2.1800  2.1820  2.1839  2.1858
                   2.1876  2.1894  2.1912  2.1930  2.1947  2.1964  2.1981
                   2.1997  2.2013  2.2029  2.2044  2.2060  2.2075  2.2090
                   2.2105  2.2119  2.2133  2.2147  2.2161  2.2175  2.2189
                   2.2202  2.2215  2.2228  2.2241  2.2254  2.2266  2.2279
                   2.2291  2.2303  2.2316  2.2328  2.2340  2.2351  2.2363
                   2.2375  2.2386  2.2398  2.2409  2.2420  2.2431  2.2443
                   2.2453  2.2464  2.2475  2.2486  2.2497  2.2507  2.2518
                   2.2528  2.2538  2.2549  2.2559  2.2569  2.2579  2.2589
                   2.2599  2.2609  2.2618  2.2628  2.2638  2.2647  2.2657
                   2.2666  2.2675  2.2685  2.2694  2.2703  2.2712  2.2721
                   2.2730  2.2739  2.2748  2.2757  2.2766  2.2774  2.2783
                   2.2792  2.2800  2.2809  2.2817  2.2826  2.2834  2.2842
                   2.2850  2.2859  2.2867  2.2875  2.2883  2.2891  2.2899
                   2.2907  2.2915  2.2923  2.2930  2.2938  2.2946  2.2953
                   2.2961  2.2969  2.2976  2.2984  2.2991  2.3000
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*S*************************************************************
*** *************************
*S  CARLISLE CONDOMINIUM ROOF
*S  TOTAL PROPERTY BOUNDARY
*** *************************
*** AREA = 0.4877 ACRES
*** AREA = 21,244.2 SF
*** ******************
COMPUTE NM HYD        ID=1  HYD NO=100 AREA= 0.000762 SQ MI
                      PER A=0  PER B=0  PER C=0  PER D=100
                      TP=-.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   3.0084    CFS   UNIT VOLUME =   0.9955       B =   526.28      P60 = 2.0000
     AREA =     0.000762 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033300

PRINT HYD             ID=1 CODE=1

                                   PARTIAL HYDROGRAPH   100.00


    RUNOFF VOLUME =     2.05566 INCHES     =       0.0835 ACRE-FEET
    PEAK DISCHARGE RATE =       2.35 CFS  AT   1.499 HOURS   BASIN AREA =  0.0008 SQ. MI.


*g********************
*s* ROUTE THRU FIRST FLUSH POND
*g*********************************************************************
ROUTE RESERVOIR       ID=12  HYD=POND.12   INFLOW=1   CODE=5
                      OUTFLOW(CFS)   STORAGE(ACFT)     ELEV(FT)
                      0.00               0.013797       5205.60
                      2.10         0.016227       5206.29
                      2.20         0.017394       5206.62
                      2.30         0.018596       5206.96
                      2.40         0.019869       5207.32
                      2.50               0.021177       5207.69

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

     0.00      0.00   5205.60      0.014      0.00
     0.17      0.00   5205.60      0.014      0.00
     0.33      0.00   5205.60      0.014      0.00
     0.50      0.00   5205.60      0.014      0.00
     0.67      0.00   5205.60      0.014      0.00
     0.83      0.00   5205.60      0.014      0.00
     1.00      0.06   5205.61      0.014      0.04
     1.17      0.30   5205.69      0.014      0.28
     1.33      0.70   5205.81      0.015      0.65
     1.50      2.35   5206.39      0.017      2.13
```

1.67	1.34	5206.07	0.015	1.43
1.83	0.65	5205.83	0.015	0.69
2.00	0.36	5205.72	0.014	0.38
2.16	0.16	5205.66	0.014	0.17
2.33	0.09	5205.63	0.014	0.09
2.50	0.04	5205.61	0.014	0.04
2.66	0.02	5205.61	0.014	0.02
2.83	0.01	5205.60	0.014	0.01
3.00	0.00	5205.60	0.014	0.01
3.16	0.00	5205.60	0.014	0.00

PEAK DISCHARGE = 2.195 CFS - PEAK OCCURS AT HOUR 1.57
MAXIMUM WATER SURFACE ELEVATION = 5206.604
MAXIMUM STORAGE = 0.0173 AC-FT INCREMENTAL TIME= 0.033300HRS

PRINT HYD ID=12 CODE=50

HYDROGRAPH FROM AREA POND.12

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	1.332	0.6	2.664	0.0	3.996	0.0	5.328	0.0
0.666	0.0	1.998	0.4	3.330	0.0	4.662	0.0	5.994	0.0

RUNOFF VOLUME = 2.05526 INCHES = 0.0835 ACRE-FEET
PEAK DISCHARGE RATE = 2.19 CFS AT 1.565 HOURS BASIN AREA = 0.0008 SQ. MI.

*** **********
FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:23:50

```
1*******************************************
 *  HEC-2 WATER SURFACE PROFILES            *
 *                                          *
 *  Version   4.6.2;  May 1991              *
 *                                          *
 *  RUN DATE    30JUL15    TIME   14:25:41  *
 *******************************************
```

```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*          (916) 756-1104               *
*****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

```
THIS RUN EXECUTED 30JUL15    14:25:41
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version   4.6.2;  May 1991
 ************************************

 T1          CHANNEL CAPACITY CALCULATIONS
 T2          CARLISLE CONDO FIRST FLUSH SWALE TO CENTRAL
 T3

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      .005         0         0         0         0         0

 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26         4        68         3

 NC     .017      .017      .017       .1        .3
 QT        2     2.35      2.35
 X1        1        4         0      3.1         0         0         0         0         0         0
 GR      0.5        0         0       .1        .0        3.       0.5       3.1

     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

 *PROF 1

 CCHV=     .100 CEHV=     .300
 *SECNO 1.000
 2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
      1.000      .31       .31       .00       .00       .41       .10       .00       .00       .50
        2.3       .0       2.3        .0        .0        .9        .0        .0        .0       .50
```

```
      .00       .00      2.53       .00      .000      .017      .000      .000       .00       .04
  .004986        0.        0.        0.         0         0         5       .00      3.03      3.06

T1
T2 SPILLWAY
T3 SWALE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     0         3         0         1       .005

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    2         0        -1         0         0         0         0         0         0         0

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 2

CCHV=      .100 CEHV=      .300
*SECNO 1.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3720 CRITICAL DEPTH ASSUMED
     1.000       .27       .27       .27       .00       .40       .13       .00       .00       .50
       2.3        .0       2.3        .0        .0        .8        .0        .0        .0       .50
       .00       .00      2.94       .00      .000      .017      .000      .000       .00       .05
   .007963        0.        0.        0.         0         8         5       .00      3.01      3.05
THIS RUN EXECUTED 30JUL15     14:25:41
 ************************************
  HEC-2 WATER SURFACE PROFILES
  Version    4.6.2;  May 1991
 ************************************

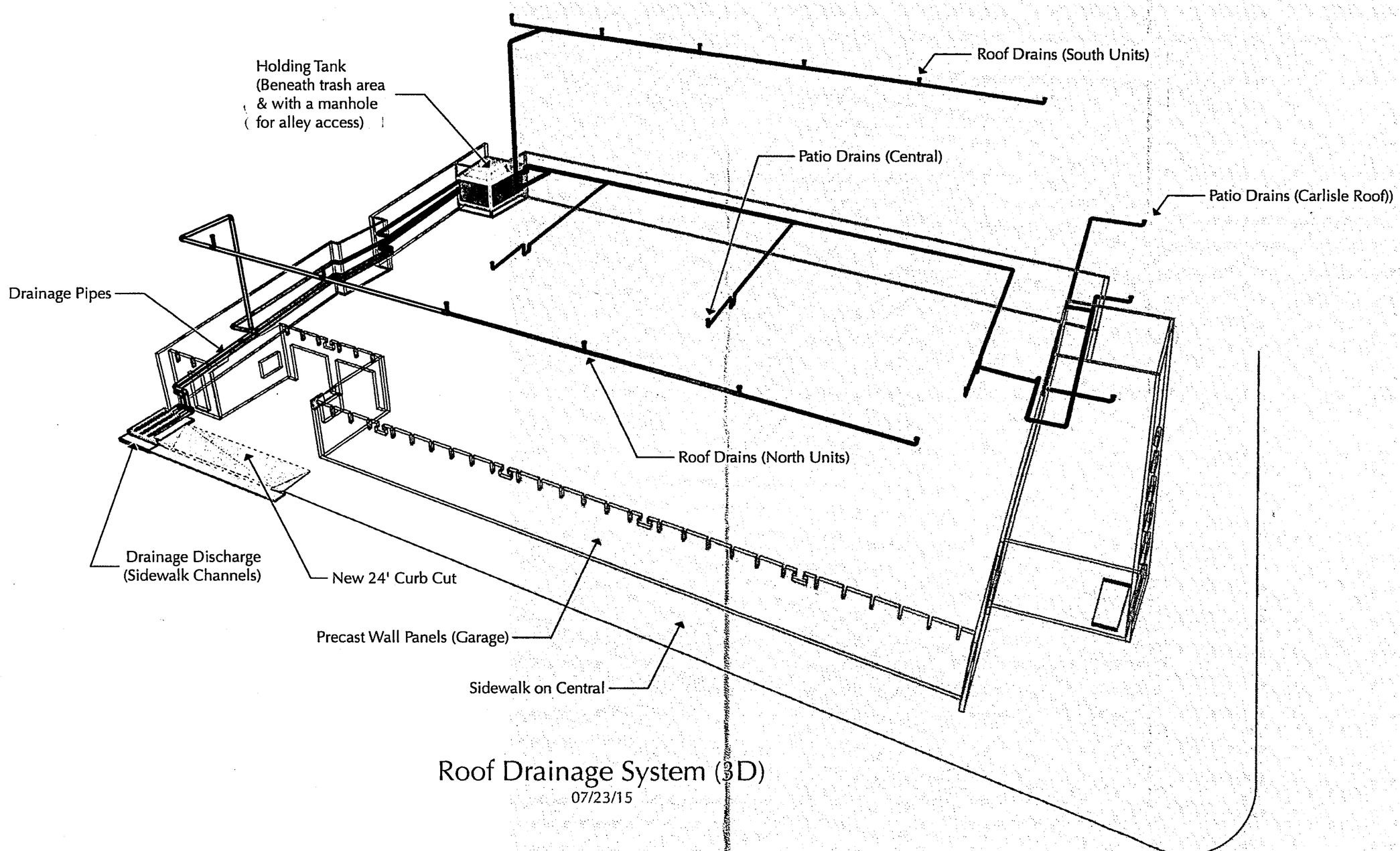
 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST
SUMMARY PRINTOUT

       SECNO       Q       CWSEL      CRIWS       VCH      TOPWID      FRCH       EG

       1.000      2.35       .31        .00      2.53       3.03       .80       .41
 *     1.000      2.35       .27        .27      2.94       3.01      1.01       .40

  SUMMARY OF ERRORS AND SPECIAL NOTES

 CAUTION SECNO=      1.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
```



Roof Drainage System (3D)

07/23/15

CITY OF ALBUQUERQUE

July 2, 2015

Diane Hoelzer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: The Carlisle
SW Corner of Carlisle/Central
Grading and Drainage Plan
Engineer's Stamp dated: 6/18/2015 (K17D69)

Dear Ms. Hoelzer,

Based on the information provided in your submittal received 6/19/2015, the above referenced Grading and Drainage Plan cannot be approved for Grading Permit or Building Permit until the following comments are addressed.

- The plan does not state how the first flush is being accomplished. The first .34" times the impervious area must flow through a pond or some type of landscaping before entering the public storm sewer system.
- Provide a FIRMette or a description of the flood zone and the FIRM panel the information was obtained.
- Remove from the plan the statement conceptual.
- Approval from the DRB is required for the removal of lot lines.
- Provide a table with existing and proposed flows.
- Provide the finish floor elevation.
- Provide roof flows.
- Provide how flows exit the alley way.
- The demo permit showed removal of all existing paving. Did this include the alley way? Is the alley paved? Will there be drainage into the alley?
- Building encroaches into bus stop, is there an easement agreement?
- If rain water can enter garage through openings in the walls, the sump inlet cannot drain into the sanitary sewer system, it must discharge into a pond for FF requirements.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/SB
C: email

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: The Carlisle ZAP/DRG. FILE K-16 K17D069
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Lot 1, 2, 3, 4, 5, 6 in Block 1 replat of Mankato Place, as the same are shown and designated on the replat of said Block 1
CITY ADDRESS: SW corner of Central Avenue and Carlisle Blvd S.E

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: Diane Hoelzer
ADDRESS: PO Box 90606 PHONE: 828-2200
CITY, STATE: Albuquerque, NM ZIP CODE: 87199

OWNER: Kenny Hinkes CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: James C Lewis General Design, Inc. CONTACT: Jim Lewis
ADDRESS: 904 Princeton SE PHONE: 247-1529
CITY, STATE: Albuquerque, NM ZIP CODE: 87106

SURVEYOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
X GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT (DRB SITE PLAN)
_____ OTHER (Percolation Testing

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
X OTHER (Construction Plans Approval) SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

AO varified

RECEIVED
JUN 19 2015
LAND DEVELOPMENT SECTION

SUBMITTED BY: Diane Hoelzer, PE DATE: June 18, 2015

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.