

Office Copy:



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Whataburger City Drainage #: _____
 DRB#: _____ EPC#: _____ Work Order#: _____
 Legal Description: TR D-1 Plat of Hubbell Plaza
 City Address: 111 Coors Blvd. NW, Albuquerque NM 87121

Engineering Firm: Tierra West, LLC Contact: Ronald R. Bohannon
 Address: 5571 Midway Park Place NE Albuquerque NM 87109
 Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: rrb@tierrawestllc.com

Owner: Oak Realty Partners, Inc. Contact: _____
 Address: 5975 S. Quebec Street, Suite 141 Greenwood Village Colorado 80111
 Phone#: 303-318-0100 Fax#: _____ E-mail: _____

Architect: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

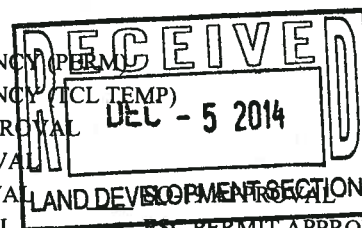
Contractor: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
☒ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☒ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEER'S CERT (TCL)
☐ ENGINEER'S CERT (DRB SITE PLAN)
☐ ENGINEER'S CERT (ESC)
☐ SO-19
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE 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
☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
☐ FOUNDATION PERMIT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ GRADING CERTIFICATION
☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____

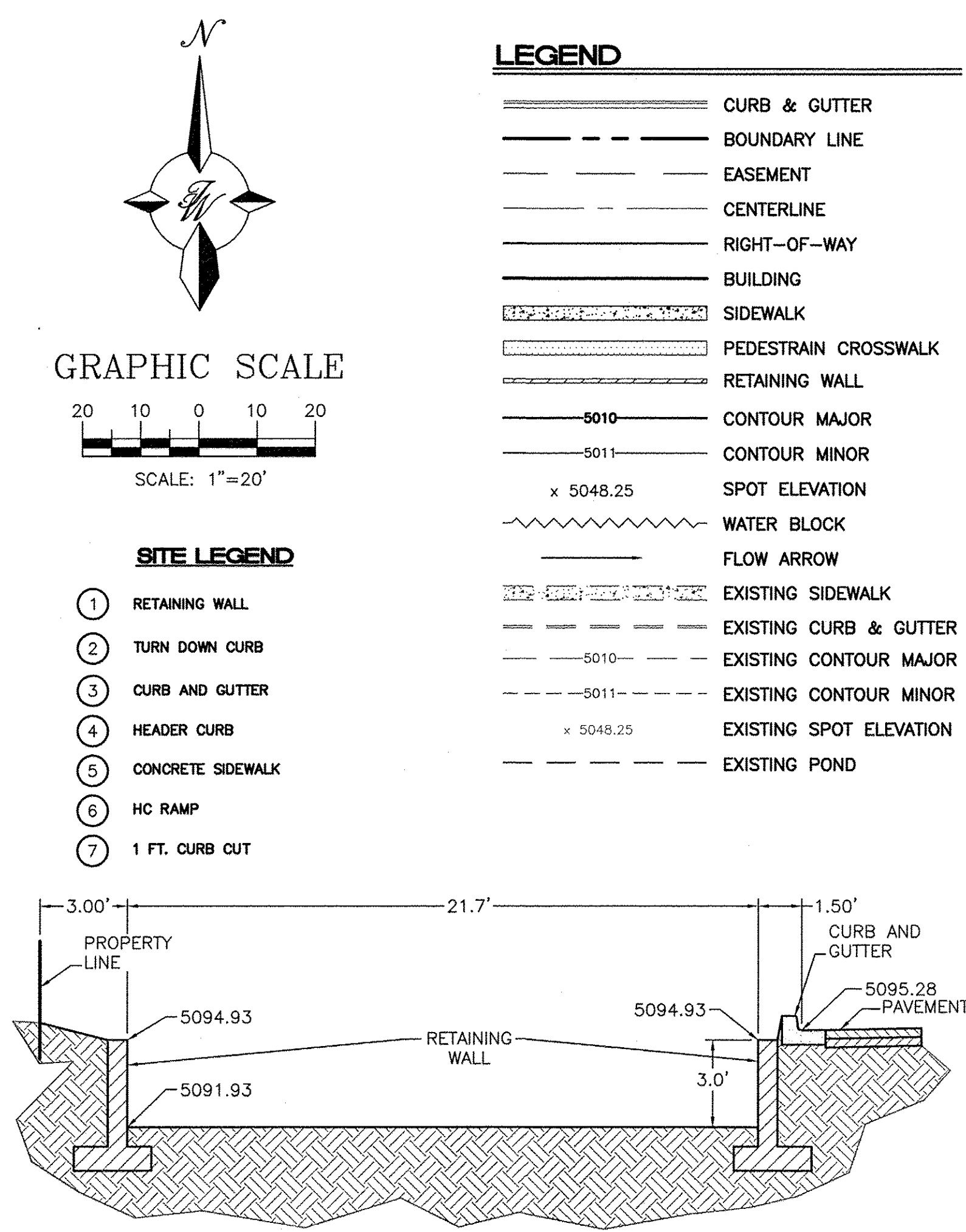
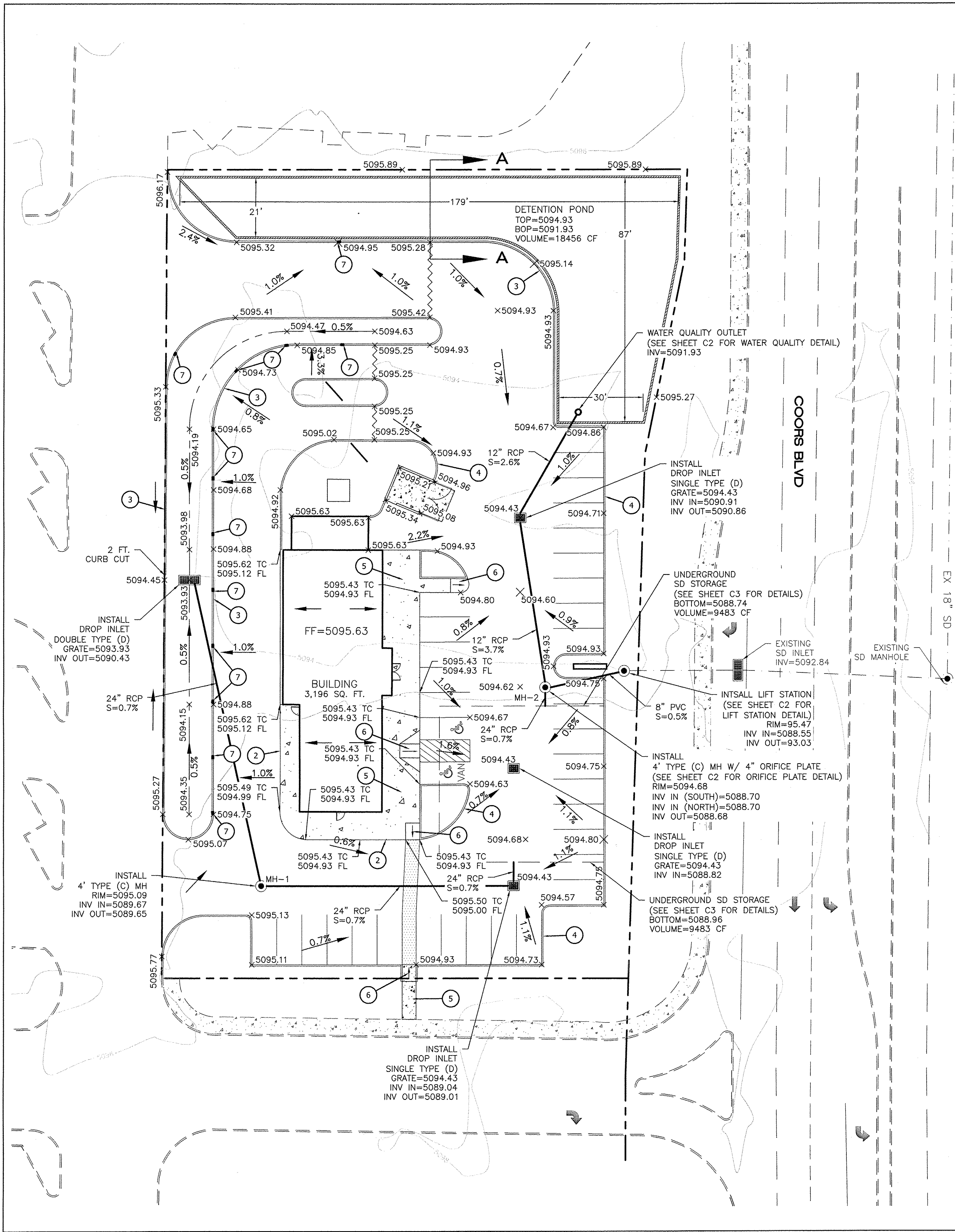


WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 12/02/2014 By: Vinny Perea

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 defines 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
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development



Introduction

The purpose of this submittal is to provide a drainage management plan for the proposed Whataburger restaurant located near the intersection of Coors Blvd. and Central Ave. in Albuquerque, New Mexico. The site contains approximately 1.15 acres and located within the Hubbell Plaza Shopping Center. The site lies outside of any flood plains (FIRM Map 35001C0329H).

Existing Conditions

The site is part of an approved drainage plan titled "Coors & Central Shopping Center" (K10-D018). The location is tract D-1 within the Hubbell Plaza Shopping Center and is currently a detention pond for 5.4 acres of the shopping center. The site collects all flows from the 5.4 acres via surface flow through a concrete channel located on the west side of the site. The pond holds all flows for a minimum of 2 hours before being discharged through an 8-inch connecting pipe on the east side of the site. A delay timer is used to discharge the pond through the 8-inch pipe towards the back of a catch basin located on Coors Blvd. and into the street storm drain system. Per the approved drainage plan calculations, the pond is designed to hold 30,068 cubic feet of runoff and discharge to the Coors storm drain system at a rate of 1.08 cfs.

Proposed Conditions

The subject site will continue to collect all flows from the offsite area of the shopping center and detain in a subsurface system. The offsite flows will drain via surface flow through both driveway aisles and through a curb cut on the west side of the site where the existing concrete channel lies. The offsite flows through the south driveway and curb cut will be collected into a Double D Drop Inlet that is located in a bio swale on the western side of site. The offsite flows through the north driveway will be collected in the detention pond on the north side of the site. All flows from the west side of the building and directly north of the building will be directed towards the bio swale and into the Double D Drop Inlet. Flows from the north driveway aisle will be directed towards the detention pond. All other flows from the site will be directed to three Single D drop inlets in the parking lot. The Double D inlet will interconnect via storm drain with the southern Single D inlet and an underground storage system. The detention pond will interconnect via storm drain with the northernmost Single D inlet and the underground storage system.

As runoff volume increases and fills up the underground storage system completely, the interconnecting storm drains, drop inlets and detention pond will act as an equalizing system and allow runoff to be stored in both the detention pond and on the surface of the parking lot and bio swale. During the 100 year-6 hour storm, the maximum water surface elevation for the detention system is 5094.93. This water surface elevation allows six inches of ponding depth in the parking lot and 12 inches of ponding in the bio swale and is below the elevation of the finished floor of the building (5095.63). Emergency overflow of the water surface elevation would send flows over the southeast part of the parking lot and onto Coors Blvd. The detention system will outflow through a 4" orifice plate located at MH-2 and then through a storm drain and pump system towards the existing catch basin on Coors Blvd.

When the maximum water surface elevation is reached; the volume of the detention pond is 0.43 ac-ft, volume of underground storage is 0.22 ac-ft, and the volume of surface ponding is 0.16 CF. This gives a total storage volume of 0.81 ac-ft equivalent to the required 0.81 ac-ft of storage required for developed runoff. The orifice plate at MH-2 will control the outflow to the required discharge of 1.08 cfs. The detention pond and underground storage system will capture sediment within the bottom of each respective area, and detention pond floatables will be captured by a trash rack installed at the pond outlet to meet first flush requirements.

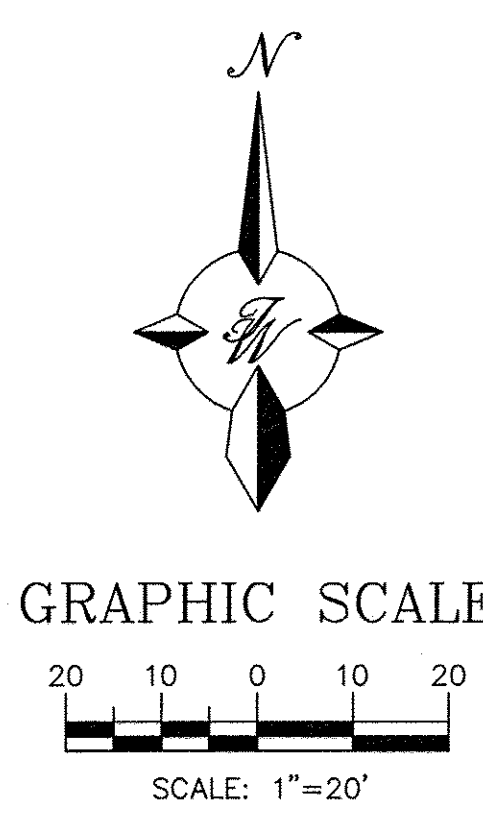
See sheet C2 for DFM calculations, Grate capacity, Pipe capacity, Basin Map, and Site Details
See sheet C3 for Underground StormChamber configuration and details

CAUTION:

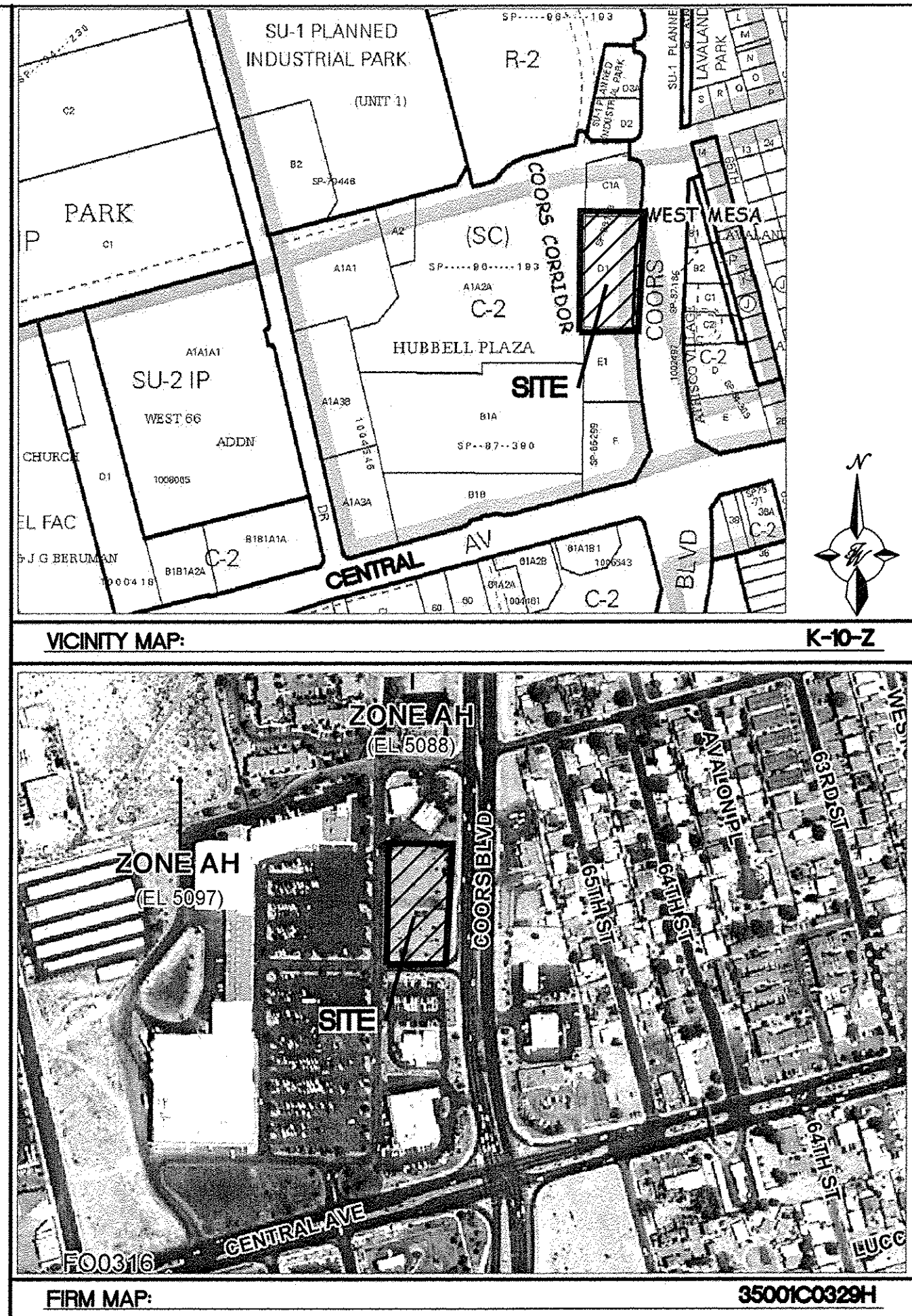
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS. PRIOR TO STARTING THE WORK, ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

NOTE

ALL GRADES INDICATE FLOWLINE UNLESS OTHERWISE NOTED



- LEGEND**
- CURB & GUTTER
 - BOUNDARY LINE
 - EASEMENT
 - CENTERLINE
 - RIGHT-OF-WAY
 - BUILDING
 - SIDEWALK
 - PEDESTRAIN CROSSWALK
 - RETAINING WALL
 - 5010 CONTOUR MAJOR
 - 5011 CONTOUR MINOR
 - x 5048.25 SPOT ELEVATION
 - WATER BLOCK
 - FLOW ARROW
 - EXISTING SIDEWALK
 - EXISTING CURB & GUTTER
 - EXISTING CONTOUR MAJOR
 - EXISTING CONTOUR MINOR
 - x 5048.25 EXISTING SPOT ELEVATION
 - EXISTING POND
- SITE LEGEND**
- 1 RETAINING WALL
 - 2 TURN DOWN CURB
 - 3 CURB AND GUTTER
 - 4 HEADER CURB
 - 5 CONCRETE SIDEWALK
 - 6 HC RAMP
 - 7 1 FT. CURB CUT



- EROSION CONTROL NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
 - REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		

ENGINEER'S SEAL

WHATABURGER
COORS AND CENTRAL
GRADING AND DRAINAGE PLAN

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NM 87109
(505) 858-3100
www.tierrawestllc.com

DRAWN BY
BJF
DATE
11/05/14
2014075_GRB

SHEET #
C1

JOB #
2014075

DPM Weighted E Method

Existing Conditions

Basin Descriptions										100-Year, 6-Hr			10-Year, 6-Hr				
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
				%	(acres)	%	(acres)	%	(acres)	%	(acres)						
1	235,224.00	5.400	0.00844	0%	0.000	30%	1.620	0%	0.000	70%	3.780	1.580	0.711	19.81	0.934	0.420	12.16
Total	235,224.00	5.400	0.00844		0.000		1.620		0.000		3.780		0.711	19.81		0.420	12.16

Proposed Conditions

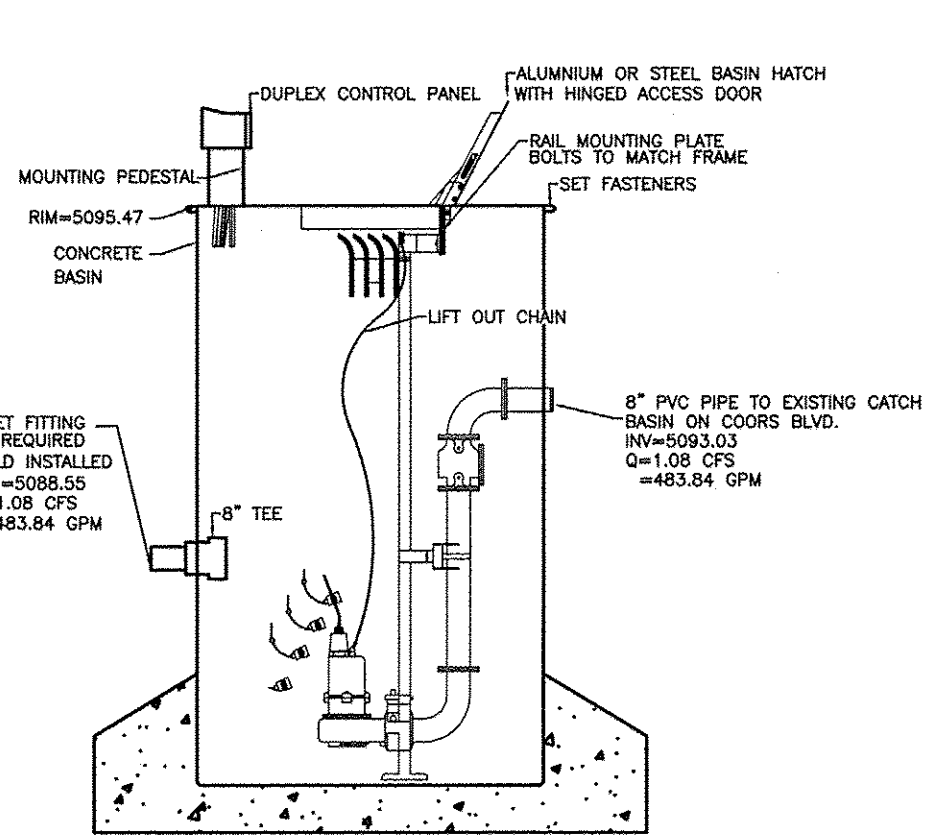
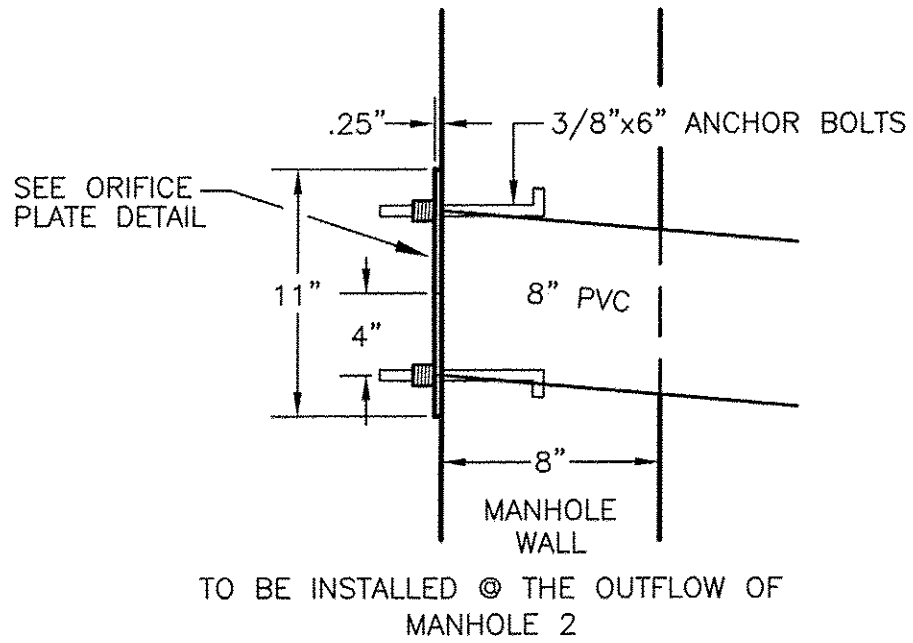
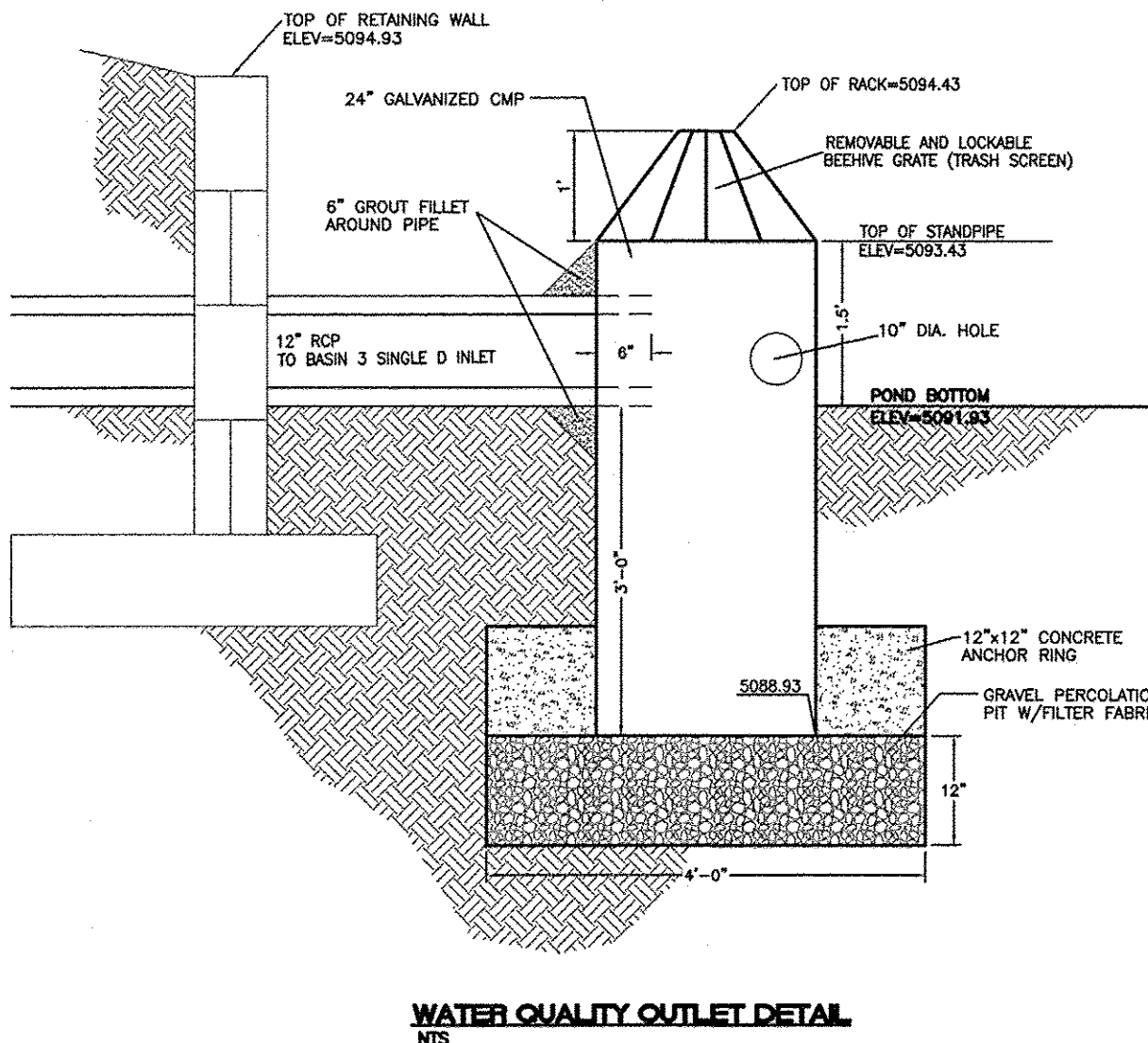
Basin Descriptions									100-Year, 6-Hr			10-Year, 6-Hr					
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
				%	(acres)	%	(acres)	%	(acres)	%	(acres)						
1	7,149.78	0.164	0.00026	0%	0.000	20%	0.033	0%	0.000	80%	0.131	1.710	0.023	0.64	1.036	0.014	0.40
2	6,313.94	0.145	0.00023	0%	0.000	15%	0.022	0%	0.000	85%	0.123	1.775	0.021	0.58	1.087	0.013	0.37
3	12,133.24	0.279	0.00044	0%	0.000	15%	0.042	0%	0.000	85%	0.237	1.775	0.041	1.12	1.087	0.025	0.72
4	19,233.65	0.442	0.00069	0%	0.000	40%	0.177	0%	0.000	60%	0.265	1.450	0.053	1.52	0.832	0.031	0.90
5	190,393.39	4.371	0.00683	0%	0.000	10%	0.437	0%	0.000	90%	3.934	1.840	0.670	18.08	1.138	0.415	11.70
Total	235,224.00	5.400	0.00844		0.000		0.710		0.000		4.690	1.799	0.810	21.94	1.106	0.498	14.09

Grate Capacity (Based On Orifice Equation)

Basin ID	Q Required (CFS)	Grate Type	Q Allow (CFS)	Result
1	0.67	Single D	7.12	Capacity OK
2	0.60	Single D	7.12	Capacity OK
3	1.16	Single D	7.12	Capacity OK
5	18.44	Double D	19.45	Capacity OK

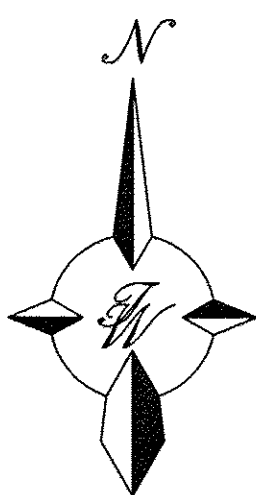
Pipe Capacity (Based On FlowMaster Analysis)

Invert ID	Q Required (CFS)	Pipe Size	Q Allow (CFS)	Result
Basin 5 Double D Grate	18.44	24" RCP @ 0.7%	20.36	Capacity OK
MH-1	18.44	24" RCP @ 0.7%	20.36	Capacity OK
Basin 1 Single D Grate	19.11	24" RCP @ 0.7%	20.36	Capacity OK
Basin 2 Underground Storage Outlet	19.71	24" RCP @ 0.7%	20.36	Capacity OK
Basin 4 Pond Inlet	1.68	12" RCP @ 2.6%	6.18	Capacity OK
Basin 3 Single D Grate	2.84	12" RCP @ 3.7%	7.37	Capacity OK

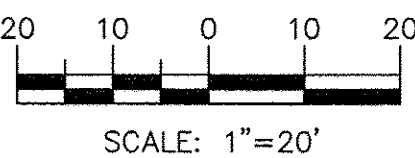


LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- BUILDING
- SIDEWALK
- PEDESTRAIN CROSSWALK
- RETAINING WALL
- WATER BLOCK
- FLOW ARROW
- EXISTING SIDEWALK
- EXISTING CURB & GUTTER
- BASINS
- MWSE



GRAPHIC SCALE



ENGINEER'S SEAL

RONALD R. BOHANNAN
NEW MEXICO
PROFESSIONAL ENGINEER

RONALD R. BOHANNAN
P.E. #7868

WHATABURGER
COORS AND CENTRAL

GRADING AND
DRAINAGE PLAN

TIERRA WEST, LLC
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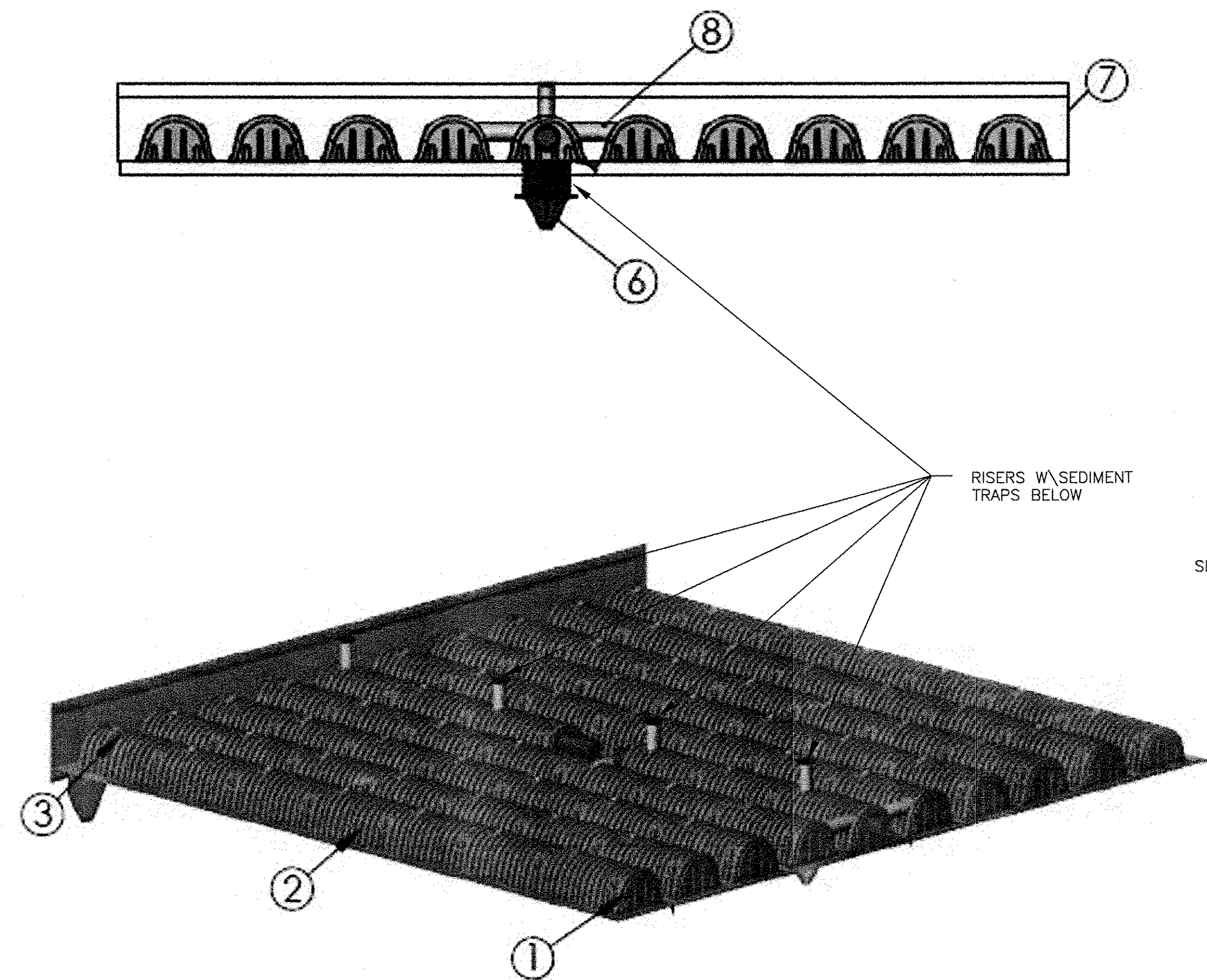
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BJF

DATE
11/05/14

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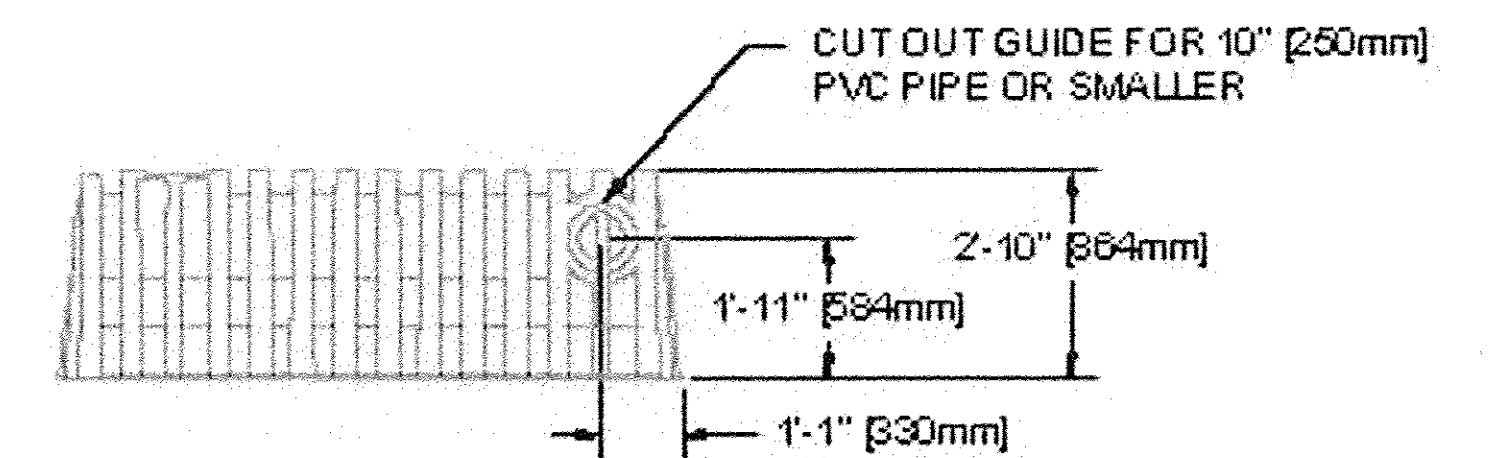
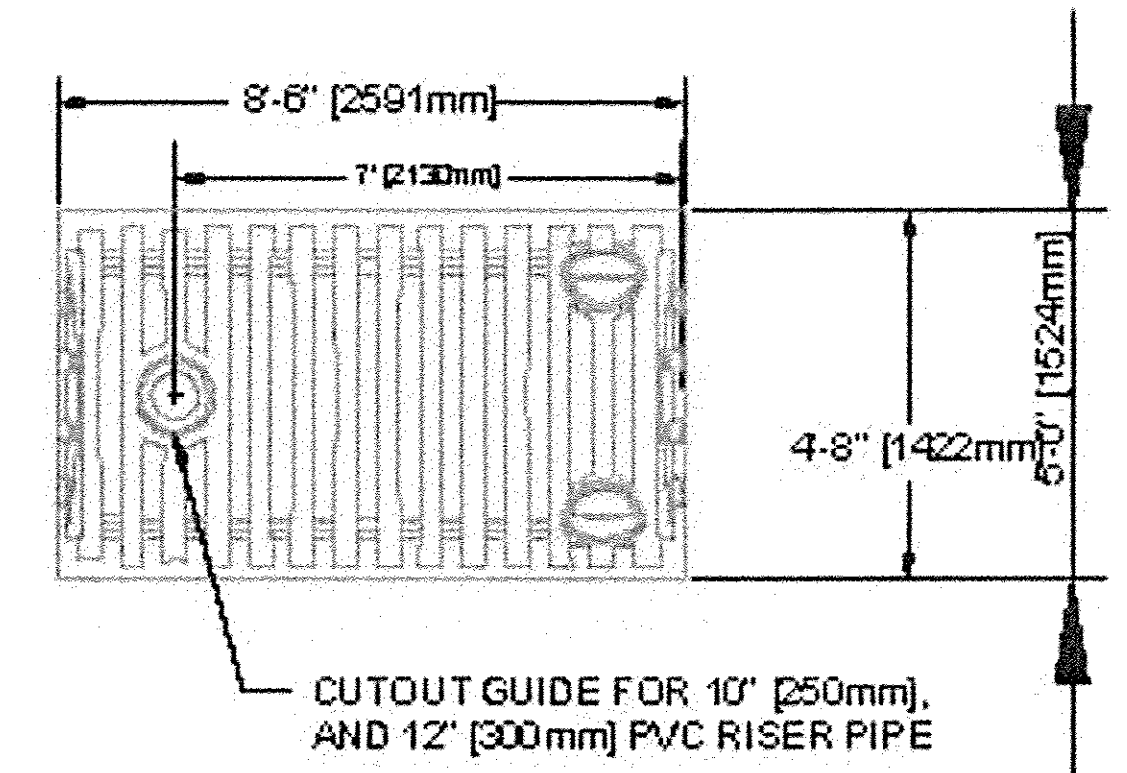
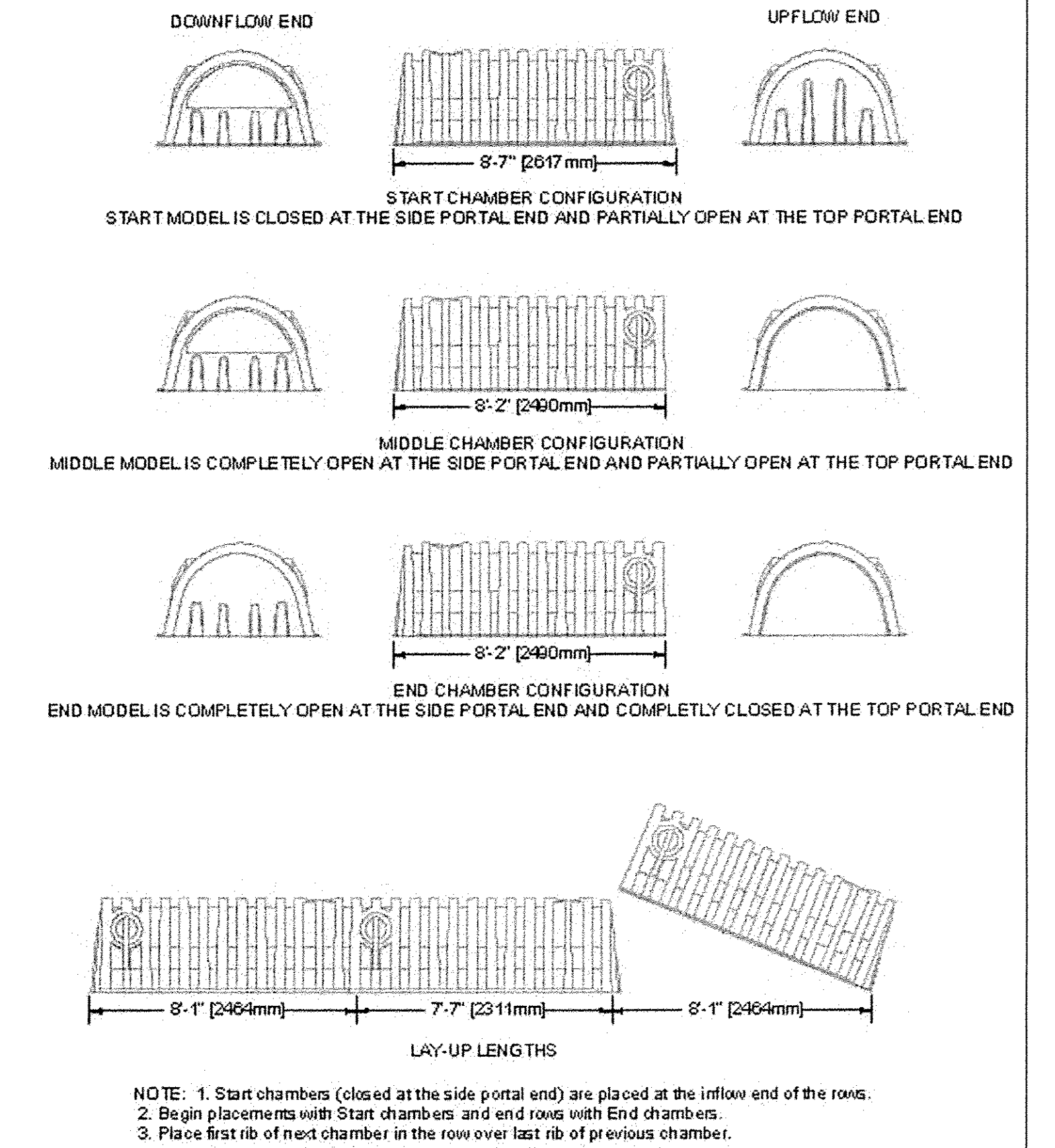
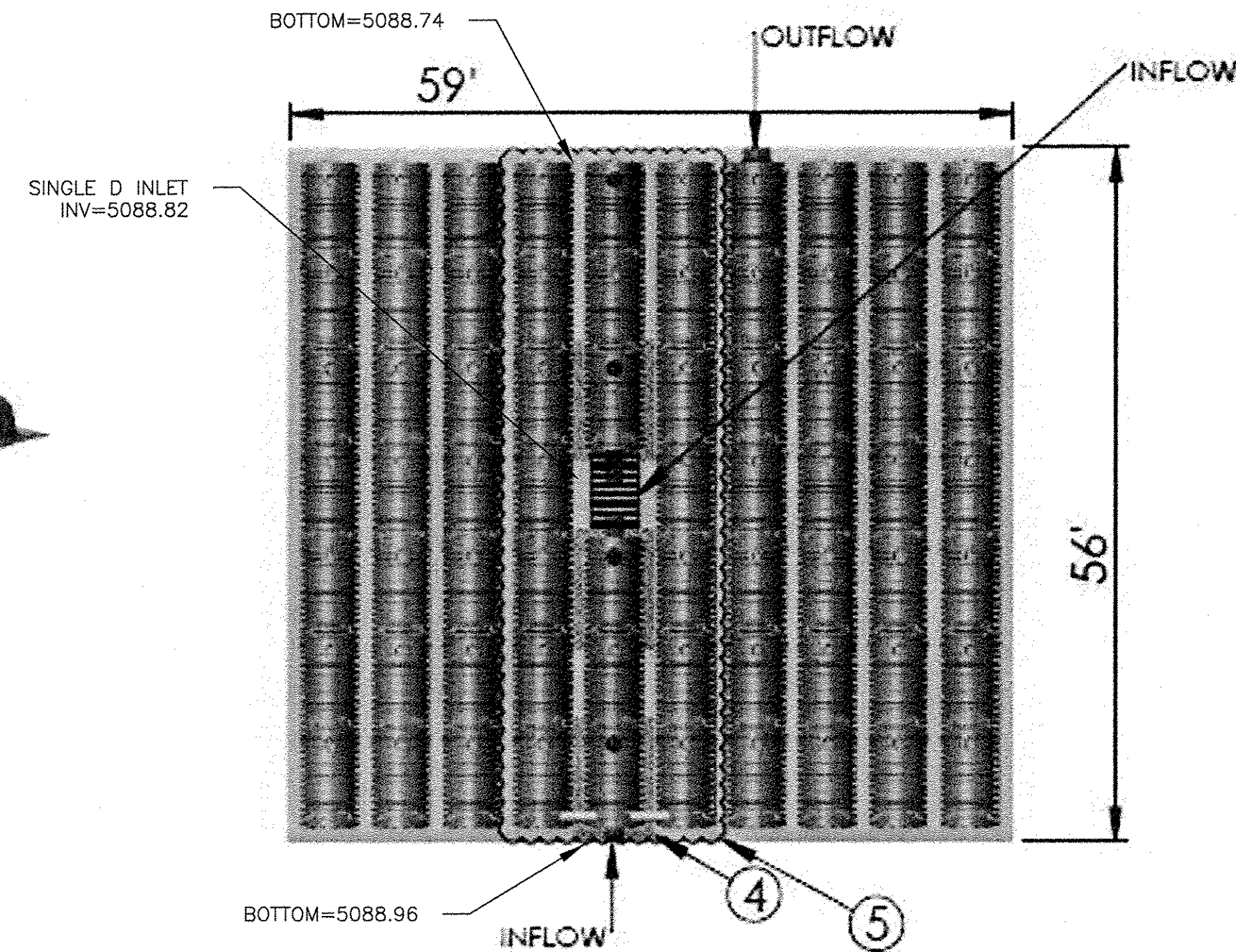
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JOB #
2014075

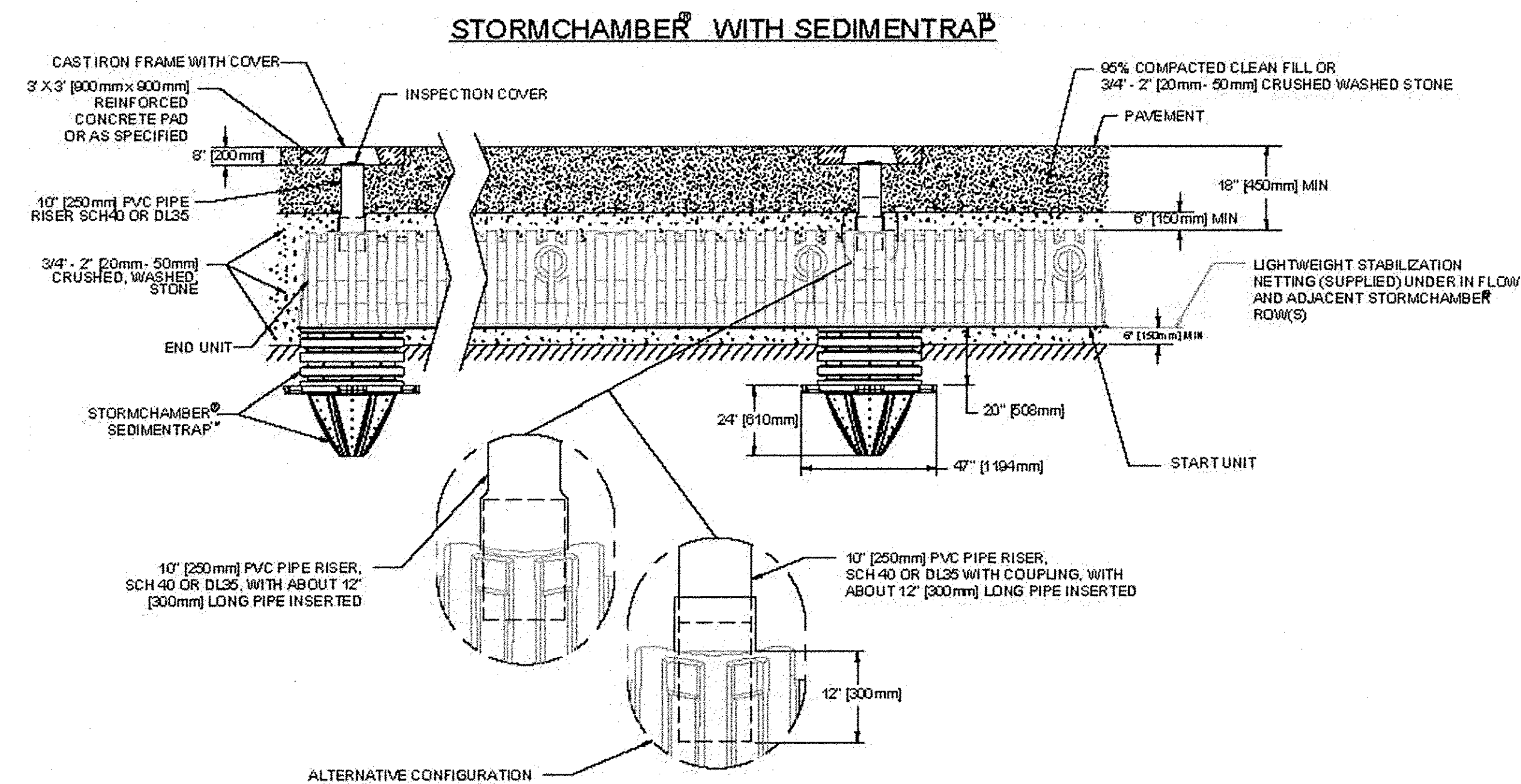
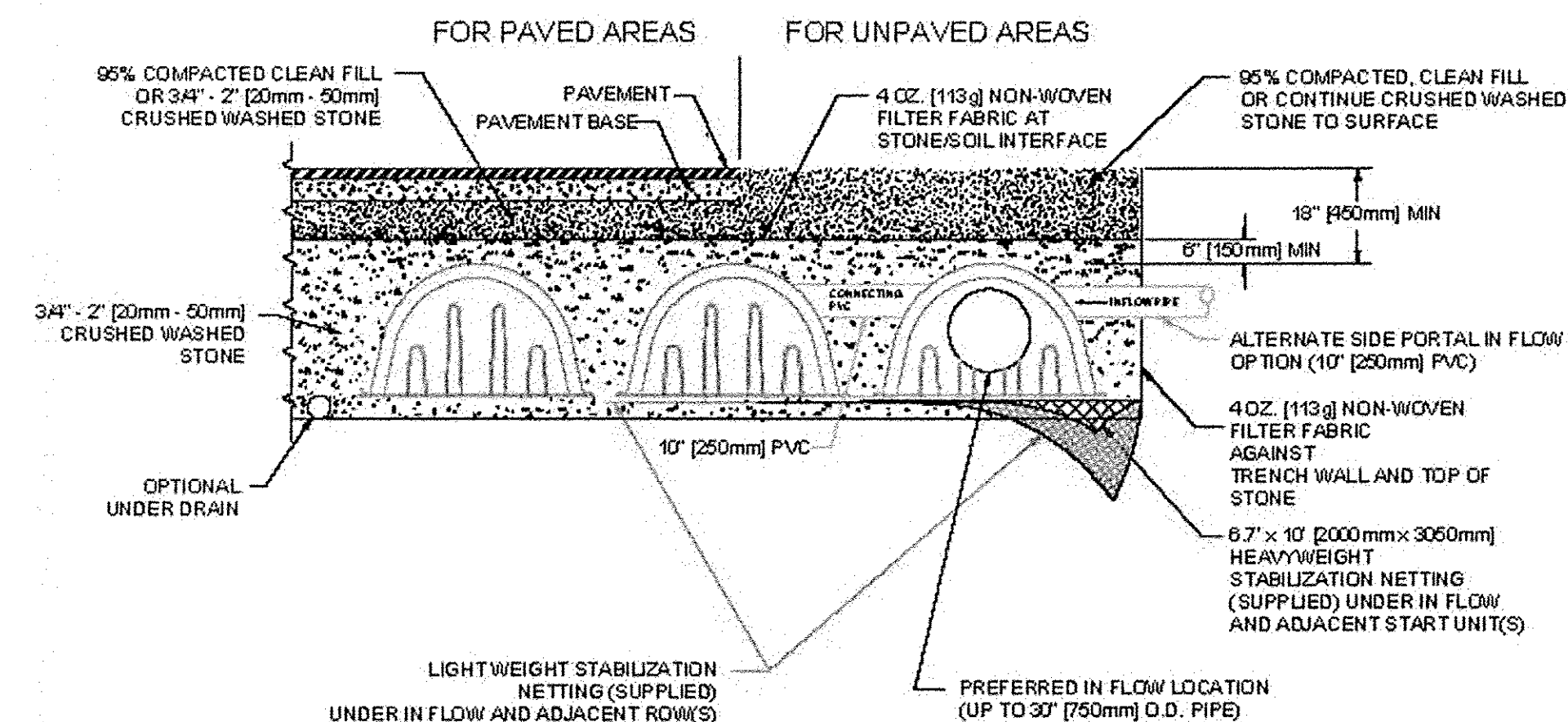


ITEM NO.	STORMCHAMBER PROPOSED LAYOUT DESCRIPTION	QTY
1	START UNITS	11
2	MIDDLE UNITS	47
3	END UNITS	11
4	7X10' HEAVY DUTY NETTING (SUPPLIED)	3
5	LIGHTWEIGHT STABILIZATION NETTING (INFLOW AND ADJACENT ROWS) (SUPPLIED)	1
6	10" PVC INSPECTION / CLEAN OUT RISER - (SUPPLIED BY OTHERS) W/ FRAME AND LID AND SEDIMENT TRAP (SUPPLIED)	4
7	4oz NON WOVEN STORMCHAMBER GEOTEXTILE FILTER FABRIC (SUPPLIED)	2
8	ROW CONNECTING 10" PVC (SUPPLIED BY OTHERS)	2

INSTALLED WITH 12" COVER STONE, 12" BASE STONE, 40% STONE VOID. INSTALLED SYSTEM VOLUME (PERIMETER STONE INCLUDED) = 9,483 CF.



STORMCHAMBER® TYPICAL CROSS-SECTION INSTALLATION (PROVIDED AS AN ILLUSTRATED EXAMPLE ONLY)



	ENGINEER'S SEAL	WHATABURGER COORS AND CENTRAL	DRAWN BY B.J.F.
		STORMCHAMBER STORAGE SYSTEM	DATE 11/05/14
			2014075_GRB
			SHEET # C3
	RONALD R. BOHANNAN P.E. #7868	TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	JOB # 2014075