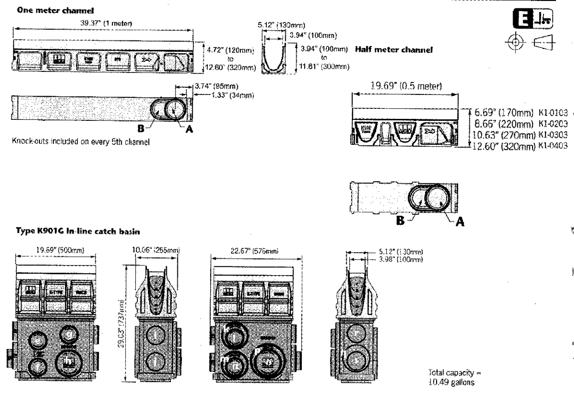
ACO DRAIN

KlassikDrain - K100 Galvanized steel edge rail channel system

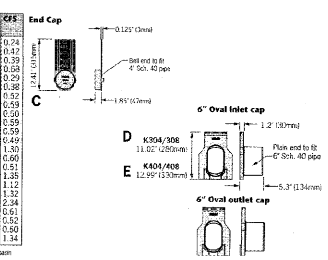


ACO Specification Information

Outlet flow rates

Outlet	Product	Outlet size (Sch. 40)	Invert Depth	GPM	CFS
a	Bottom outlet - K00	4" round	3.94"	108	0.24
a	Bottom outlet - K40	4" round	11.81"	187	0.42
b	Bottom outlet - K00	6" oval	3.94"	177	0.39
b	Bottom outlet - K40	6" oval	11.81"	306	0.68
c	End outlet - K20	4" round	7.87"	132	0.29
c	End outlet - K40	4" round	11.81"	171	0.38
d	K1-308-6 6" outlet cap	6" oval	9.84"	233	0.52
e	K1-408-6 6" outlet cap	6" oval	11.81"	264	0.59
f	Type K1-901G	4" round	19.30"	226	0.50
g	Type K1-901G	4" round	25.67"	265	0.59
h	Type K1-901G	4" round	25.30"	263	0.59
i	Type K1-901G	4" round	18.56"	222	0.49
j	Type K1-901G	6" round	25.85"	586	1.30
k	Type K1-901G	4" round	26.43"	269	0.60
l	Type K1-901G	4" round	19.36"	227	0.51
m	Type K1-901G	6" round	27.30"	604	1.35
n	Type K1-901G	6" round	19.99"	505	1.12
o	Type K1-901G	6" round	26.43"	593	1.32
p	Type K1-901G	8" round	27.30"	1051	2.34
q	Type K1-901G	4" round	27.17"	273	0.61
r	Type K1-901G	4" round	20.68"	235	0.52
s	Type K1-901G	4" round	18.99"	224	0.50
t	Type K1-901G	6" round	27.17"	6.02	1.34

Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates. Catch basin flow rates are without trash bucket - using trash bucket reduces flow.



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ACO DRAIN

KlassikDrain - K100 Galvanized steel edge rail channel system

Description	Part No.	Invert Inches[2]	Invert mm[2]	Weight Lbs.
K1-00 Neutral channel - 39.37" (1m)[1]	**74041**	**3.94**	**100**	**28.1**
K1-1 Sloped channel - 39.37" (1m)	74001	4.13	105	28.1
K1-2 Sloped channel - 39.37" (1m)	74002	4.33	110	28.9
K1-3 Sloped channel - 39.37" (1m)	74003	4.53	115	29.7
K1-4 Sloped channel - 39.37" (1m)	74004	4.72	120	30.5
K1-5 Sloped channel - 39.37" (1m)[1]	74005	4.92	125	31.3
K1-6 Sloped channel - 39.37" (1m)	74006	5.12	130	32.1
K1-7 Sloped channel - 39.37" (1m)	74007	5.31	135	32.9
K1-8 Sloped channel - 39.37" (1m)	74008	5.51	140	33.7
K1-9 Sloped channel - 39.37" (1m)	74009	5.71	145	34.5
K1-10 Sloped channel - 39.37" (1m)[1]	74010	5.91	150	35.3
K1-010 Neutral channel - 39.37" (1m)[1]	**74043**	**5.91**	**150**	**35.3**
K1-0103 Neutral channel - 19.69" (0.5m)[1]	**74044**	**5.91**	**150**	**17.0**
K1-11 Sloped channel - 39.37" (1m)	74011	6.10	155	36.1
K1-12 Sloped channel - 39.37" (1m)	74012	6.30	160	36.9
K1-13 Sloped channel - 39.37" (1m)	74013	6.50	165	37.7
K1-14 Sloped channel - 39.37" (1m)	74014	6.69	170	38.5
K1-15 Sloped channel - 39.37" (1m)[1]	74015	6.89	175	39.3
K1-16 Sloped channel - 39.37" (1m)	74016	7.09	180	40.1
K1-17 Sloped channel - 39.37" (1m)	74017	7.28	185	40.9
K1-18 Sloped channel - 39.37" (1m)	74018	7.48	190	41.7
K1-19 Sloped channel - 39.37" (1m)	74019	7.68	195	42.5
K1-20 Sloped channel - 39.37" (1m)[1]	74020	7.87	200	43.4
K1-020 Neutral channel - 39.37" (1m)[1]	**74045**	**7.87**	**200**	**43.4**
K1-0203 Neutral channel - 19.69" (0.5m)[1]	**74046**	**7.87**	**200**	**20.5**
K1-21 Sloped channel - 39.37" (1m)	74021	8.07	205	44.2
K1-22 Sloped channel - 39.37" (1m)	74022	8.27	210	45.0
K1-23 Sloped channel - 39.37" (1m)	74023	8.46	215	45.8
K1-24 Sloped channel - 39.37" (1m)	74024	8.66	220	46.6
K1-25 Sloped channel - 39.37" (1m)[1]	74025	8.86	225	47.4
K1-26 Sloped channel - 39.37" (1m)	74026	9.06	230	48.2
K1-27 Sloped channel - 39.37" (1m)	74027	9.25	235	49.0

Description	Part No.	Invert Inches[2]	Invert mm[2]	Weight Lbs.
K1-28 Sloped channel - 39.37" (1m)	74028	9.45	240	49.8
K1-29 Sloped channel - 39.37" (1m)	74029	9.65	245	50.6
K1-30 Sloped channel - 39.37" (1m)[1]	74030	9.84	250	51.4
K1-030 Neutral channel - 39.37" (1m)[1]	**74047**	**9.84**	**250**	**51.4**
K1-0303 Neutral channel - 19.69" (0.5m)[1]	**74048**	**9.84**	**250**	**24.0**
K1-31 Sloped channel - 39.37" (1m)	74031	10.04	255	52.2
K1-32 Sloped channel - 39.37" (1m)	74032	10.24	260	53.0
K1-33 Sloped channel - 39.37" (1m)	74033	10.43	265	53.8
K1-34 Sloped channel - 39.37" (1m)	74034	10.63	270	54.6
K1-35 Sloped channel - 39.37" (1m)[1]	74035	10.83	275	55.4
K1-36 Sloped channel - 39.37" (1m)	74036	11.02	280	56.2
K1-37 Sloped channel - 39.37" (1m)	74037	11.22	285	57.0
K1-38 Sloped channel - 39.37" (1m)	74038	11.42	290	57.9
K1-39 Sloped channel - 39.37" (1m)	74039	11.61	295	58.7
K1-40 Sloped channel - 39.37" (1m)[1]	74040	11.81	300	59.5
K1-040 Neutral channel - 39.37" (1m)[1]	**74049**	**11.81**	**300**	**59.5**
K1-0403 Neutral channel - 19.69" (0.5m)[1]	**74050**	**11.81**	**300**	**27.5**
K1-901G In-line catch basin - 19.69" (0.5m)[3]	94608	28.01	701.9	52.6
K1-621G catch basin - 19.69" (0.5m)[3]	94617	28.84	732.5	55.8
K1-631G catch basin - 19.69" (0.5m)[4]	94631	40.84	1037.4	65.8
K1-Series 600 Optional plastic riser	99902	-	-	10.0
Foul air trap - fits both 900 & 600 series basins	90854	-	-	1.2
K1-304-6 6" Inlet Cap	96839	9.84	250	5.2
K1-308-6 6" Outlet Cap	96840	9.84	250	5.0
K1-404-6 6" Inlet Cap	96834	11.81	300	6.0
K1-408-6 6" Outlet Cap	96836	11.81	300	5.8
Universal end cap	96822	11.81	300	0.4
Debris strainer for 4" bottom knockout	93488	-	-	0.2
4" Oval to 6" round outlet adapter	95140	-	-	1.1
K1 Installation device	97477	-	-	2.8
Grate removal tool	01318	-	-	0.3
K1-QuickLok locking bar	02899	-	-	0.1

Notes:
1. This channel offers a bottom knockout feature; 4" round/6" oval.
2. Inverts shown are for the male end; for female invert depth subtract 5mm (≈0.2") from the male invert (except for neutral channels, where it will be same as male invert). To calculate the overall channel depth add 20mm (≈0.8") to invert depth.
3. This catch basin kit includes a polymer concrete top, removable Quicklok locking bar, trash bucket and plastic base. Select an appropriate grate.
4. This catch basin kit includes a polymer concrete top, removable Quicklok locking bar, deep trash bucket, plastic riser and plastic base. Select an appropriate grate.

Specifications

General
The surface drainage system shall be ACO Drain K100 complete with gratings secured with 'QuickLok' locking as manufactured by ACO, Inc. or approved equal.

Materials
The trench system bodies shall be manufactured from polyester polymer concrete with the minimum properties as follows:

Compressive strength:	14,000 psi
Flexural strength:	4,000 psi
Water absorption	0.07%
Frost proof	YES
Salt proof	YES
Dilute acid and alkali resistant	YES

The nominal clear opening shall be 4" (100mm) with overall width of 5.12" (130mm). Pre-cast units shall be manufactured with either an invert slope of 0.5% or with neutral invert and have a wall thickness of at least 0.50" (13mm). Each unit will feature a partial radius in the trench bottom and a male to female interconnecting end profile. Units shall have horizontal cast in anchoring keys on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface. The galvanized steel edge rail will be integrally cast in by the manufacturer to ensure maximum homogeneity between polymer concrete body and edge rail. Each edge rail shall be at least 3/32" (2.5mm) thick.

Grates
Grates shall be specified. See separate ACO Spec Info grate sheets for details. After removal of grates and 'QuickLok' bar there shall be uninterrupted access to the trench to aid maintenance.

Installation
The trench drain system shall be installed in accordance with the manufacturer's installation instructions and recommendations.

ACO, Inc.
Northeast Sales Office: 9470 Pinecone Drive, Mentor, OH 44060, Tel: (440) 639-7230, Toll free: (800) 543-4764, Fax: (440) 639-7235
West Sales Office: 825 W. Beechcraft St., Casa Grande, AZ 85122, Tel: (520) 421-9988, Toll Free: (888) 490-9552, Fax: (520) 421-9899
Southeast Sales Office: 4211 Pleasant Road, Fort Mill, SC 29708, Toll free: (800) 543-4764, Fax: (803) 802-1063
Electronic Contact: info@ACODrain.us, www.ACODrain.us

SPEC INFO ACO

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LEVEL SPREADER (Lv)
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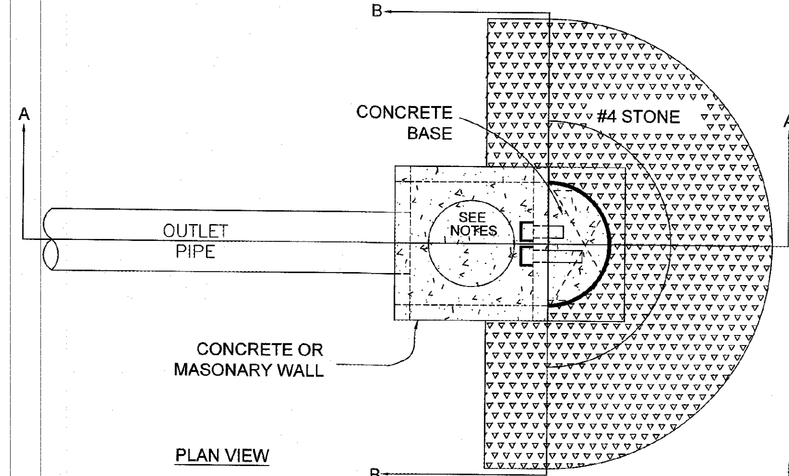
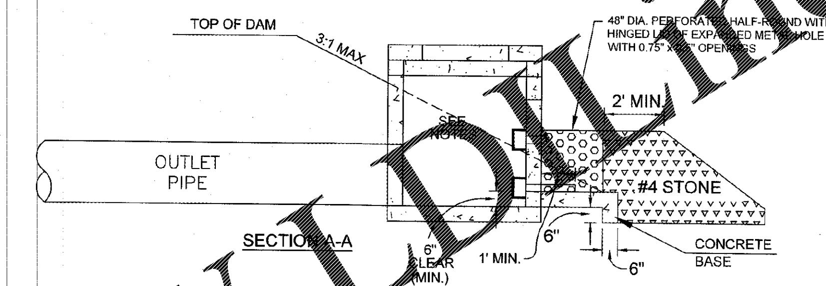
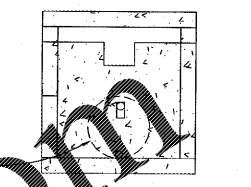
1







NOTES:

1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY

2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".

3.) STONE FILTER SHALL BE #4 STONE OR SMALLER.

4.) FOR ROUND STRUCTURES PROVIDE 48" 3/4 ROUND PERFORATED WITH 0.5" DIA. HOLES. HINGED LID TO BE OF EXPANSED METAL WITH 0.75" x 0.5" OPENDINGS.

5.) ORIFICE & CORRESPONDING PIPE SIZES:

ORIFICE SIZE	PIPE SIZE
< 3"	6"
3" TO < 5"	8"
5" TO < 11"	12"

DETENTION OUTLET CONTROL STRUCTURE - FILTER RING DETAIL
NOT TO SCALE

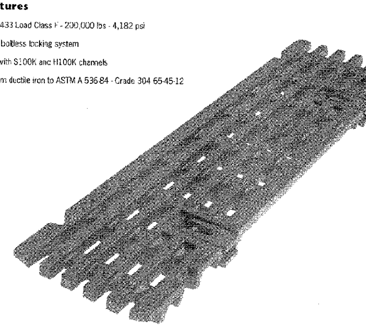
3

ACO DRAIN

4" width - ductile iron longitudinal grate

Product Features

- Certified to EN 1433 Load Class F - 200,000 lbs - 4,182 psi
- Uses 'PowerLok' boltless locking system
- Suitable for use with S100K and H100K channels
- Manufactured from ductile iron to ASTM A 536-84 - Grade 304 65-45-12
- Anti-Shunt lugs



ACO Specification Information

Specifications

General
The surface drainage system shall be ACO PowerDrain or SlabDrain, complete with ACO ductile iron longitudinal grate with 'PowerLok' locking as manufactured by ACO, Inc. or similar approved.

Materials
The covers shall be manufactured from ductile iron and have minimum properties as follows:

- ***Independently certified to meet Load Class F to EN 1433 - 200,000 lbs - 4,182 psi***
- ***Ductile iron to ASTM 536-84 - Grade 65-45-12***
- ***Intake area 184 sq. cm per meter of grate***

The overall width of 5.43" (138mm) and overall length of 19.68" (500mm). Slots measure at a maximum of 1.35" (34mm).

Grates
Grates longitudinal ductile iron. Ductile iron ASTM 536-84 - Grate 65-45-12. After removal of grates there shall be uninterrupted access to the trench to aid maintenance. Grates can be used for PowerDrain or SlabDrain.

Installation
The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations.

* delete as appropriate

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TRENCH DRAIN DETAILS
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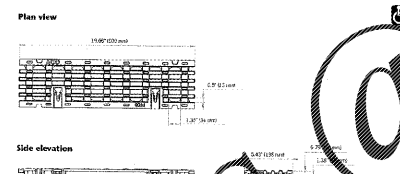
ACO DRAIN

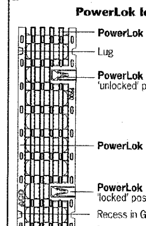
4" width - ductile iron longitudinal grate



Description	Part No.	Length Inches (mm)	Width Inches (mm)	Weight lbs.
PowerLok grate ductile iron longitudinal grate	96096	19.68 (500)	5.43 (138)	13.6

ACO Specification Information

PowerLok locking mechanism



ACO **PowerLok** is a patented boltless locking system. Grates are removed and replaced with minimum time and effort for ease of maintenance.

Lugs on the rail opposite the **PowerLok** device slots into recesses in the grate. The **PowerLok** device is used to engage the lug on the rail at two locations per grate to 'lock' the grate to the channel.

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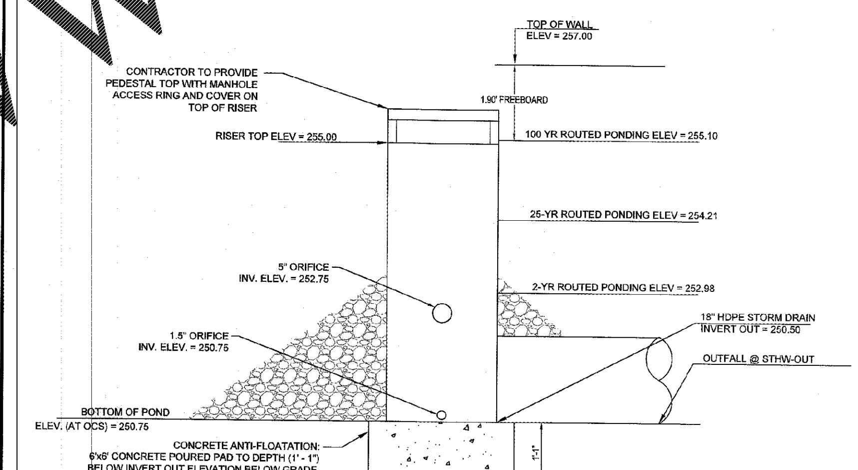
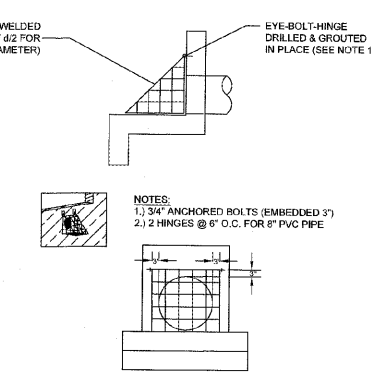
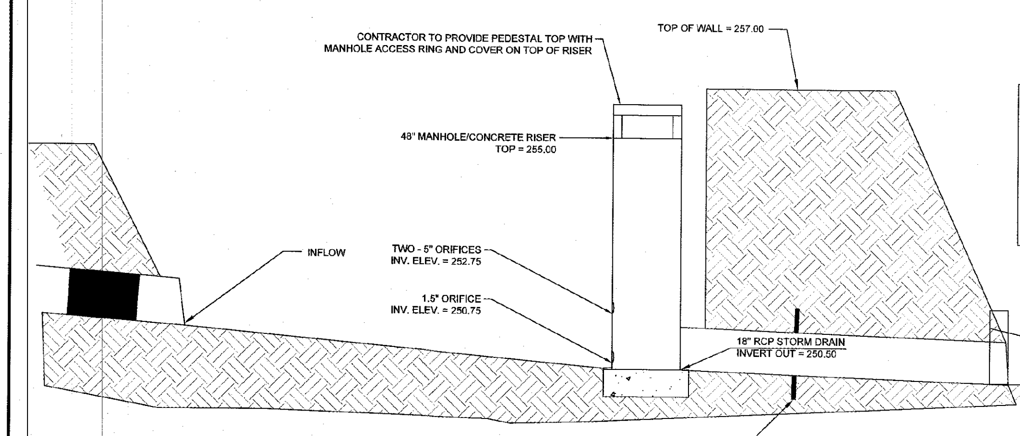
2

NOTE: OCS RISER TO BE STANDARD 48" INSIDE DIMENSION PRECAST SQUARE MANHOLE.





TRASH RACK
*TO BE PROVIDED AT EACH ORIFICE



ANTI-FLOATATION CALCULATION:	
BOUYANT FORCE (48" DIA.): (LB/VERT. FT OF OCS)	784.1 LB
CONCRETE: (CF PER V.F. TO PREVENT FLOATATION)	10.98 CF
HEIGHT OF OCS	3.5'
CONCRETE REQUIRED	= 38.43 CF
CONCRETE DEPTH = CONCRETE REQUIRED / AREA OF CONC. BASE (36 SF)	= 1.07 FT = 13"

DETENTION OUTLET CONTROL STRUCTURE DETAIL
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4

PREPARED IN THE OFFICE OF:
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REV. #	COMMENTS	DATE	DRAWN BY:	CHECKED BY:
1	COUNTY & SCDOT COMMENTS	08/23/19	MAT	MSL

CLIENT
CAROLINA RE HOLDINGS, LLC
300 GALLERIA PARKWAY - ATLANTA, GA 30339

PROJECT
BURGER KING - BEECH ISLAND, SC
BEECH ISLAND AVENUE & ATOMIC DRIVE
AIKEN COUNTY, SOUTH CAROLINA

FOR INFORMATIONAL PURPOSES ONLY

DESIGN TEAM:

DRAWN BY:	MAT
DESIGNED BY:	MAT
REVIEWED BY:	MSL

811 Know what's below. Call before you dig.

DETAILS ARE NOT DRAWN TO SCALE

JOB #:	259004
DATE:	JULY 18, 2019

CONSTRUCTION DETAILS - 6
C-7.5

Drawing name: L:\259004 - Carolina RE Holdings, LLC - Burger King - Beech Island_SC\CADD\CONSTR\259004 - 10 - DETAILS.dwg CONSTRUCTION DETAILS - 6 Aug 28, 2019 8:59am by: michael.toothaker

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