BUTLER COUNTY ENGINEER'S OFFICE
BCEO
GREGORY J. WILKENS, P.E., P.S. BUTLER COUNTY ENGINEER

March 24, 2016

David Wright
Kleingers Group.
6305 Centre Park Drive
West Chester, OH 45069

RE: Children's Hospital – Liberty Campus
Detention Basin As-built Documents.

David:

This office has reviewed the submitted Detention Basin As-built Drawing and Calculation Report as received via email on March 23, 2016 and has the following comments:

1. The provided detention basin drawing indicates a water surface elevation of 874.8 +/- and the required water quality orifice at 874.39. This is first an issue, because the pond was designed to be a dry basin, not a wet pond. In addition, with the water surface at 0.4 inches higher than the water quality outlet invert, it would appear that the required water quality outlet is not functioning. This will be required to corrected.
2. The provided topographic information indicates that the top of the constructed berm is at approximately 880. The design and the provided calculations are still run using the top of berm at 882. It is a requirement that the water quality volume be provided "in addition to" any required detention volume. Therefore, the calculation for the provided detention volume should start at elevation 876.49, the as-built elevation for the 16-inch orifice. Between 786.49 and 880, it appears that the basin would have the required volume up to the 25-year critical storm. However, the 50 and 100-year is not accounted for unless the water quality volume is double counted. Increasing the berm to the designed 882 would assist with this issue.

At this time, we realize that a Certificate of Occupancy for the Proton Therapy Addition is needed. Once a letter, that is signed by both Messer Construction AND Children's Hospital stating that the water quality orifice will be corrected, and the micropool restored, and a bond check for $10,000 made out to the Butler County Board of Commissioner with the appropriate bond form are received, we will release the Certificate of Occupancy.

Bond received & CO released 4/13/16

1921 FAIRGROVE AVENUE (S.R. 4) HAMILTON, OH 45011-1965 513.867.5744 513.424.9144 FAX: 513.867.5849 EMAIL: info@bceo.org www.bceo.org

Please note that no additional expansion of any kind will be approved before the berm is raised to the design elevation of 882.

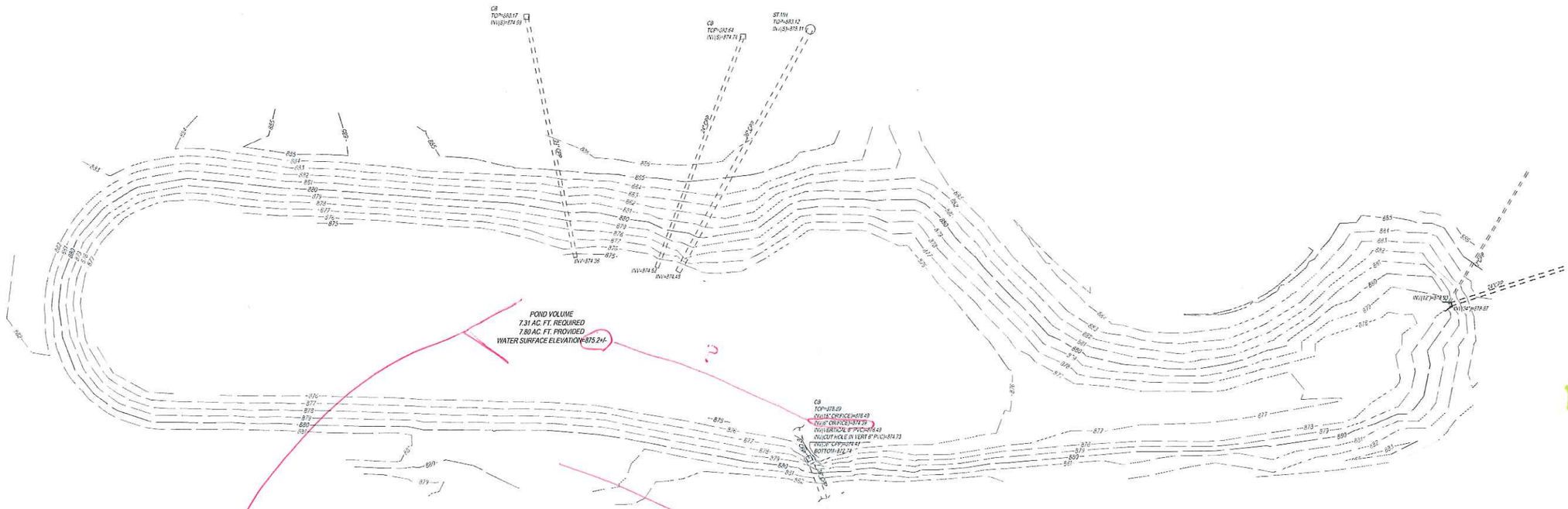
If you have any questions, please contact me at (513) 785-4142 or via email at barnest@bceo.org.

Sincerely,

Teresa Barnes, P.E.
Design Engineer

cc: file

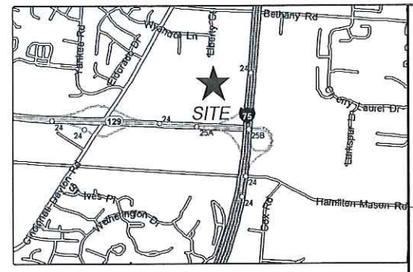
INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES



?

design has 882 all way around
provide calculations to show change

micropool elevation design @ 874.52
and was not a wet pond design @ 875 +
basin was designed dry!



VICINITY MAP
N.T.S

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
6305 Centre Park Dr.
West Chester, OH 45069
513.779.7851

SEAL:

STATE OF OHIO
RANDY C. WOLFE
8033
REGISTERED
PROFESSIONAL SURVEYOR

NO.	DATE	DESCRIPTION
1	12/13/13	DETENTION AS-BUILT - MDH

TOPOGRAPHIC SURVEY DETENTION POND

SECTION 13, TOWN 3, RANGE 3
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO
FOR: NELSON STARK CO.

PROJECT NO: 130037VAB006
DATE: 12/13/2013
SCALE: 1" = 30'
0 15 30 60

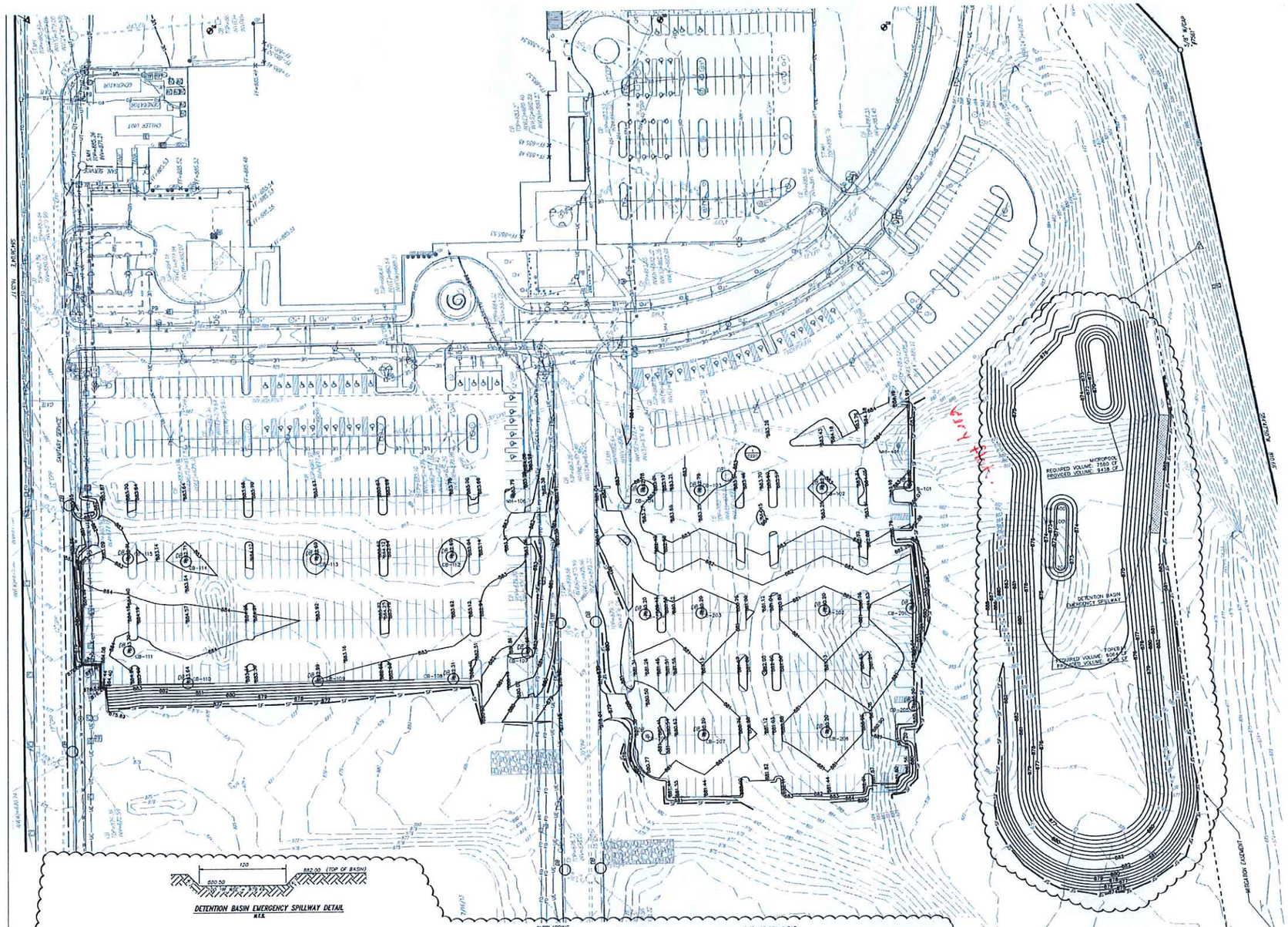
SHEET NAME:
DETENTION POND AS-BUILT

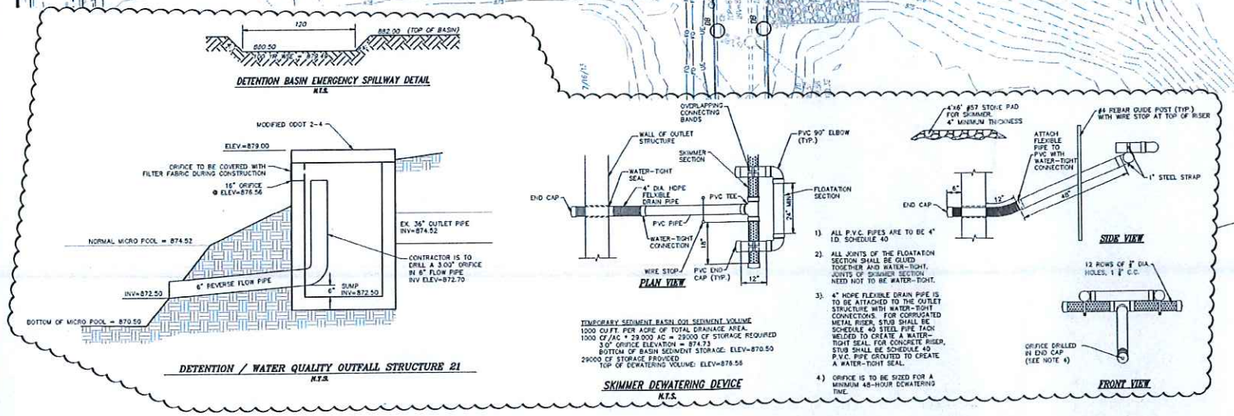
SHEET NO.
1 OF 1

H:\2013\130037\DWG\06\130037VAB06 (DET POND AS-BUILT).dwg, 12/17/2013 9:04:10 AM, randyw

NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.

OHIO Utilities Protection SERVICE
811 or 1-800-362-2764
Call Before You Dig





EXISTING LEGEND

- EXISTING CONTOURS

PROPOSED LEGEND

- DANDY BAG
- SILT FENCE
- STRAW BALE BARRIER
- PROTECT EXISTING TREES
- DRAINAGE FLOW ARROW
- FLOOD ROUTE
- PROPOSED CONTOURS
- TEMPORARY CONSTRUCTION DRIVE SEE DETAIL 16 ON SHEET C221

0 30 40 60

OHIO Utilities Protection SERVICE 811 or 1-800-362-2764 Call Before You Dig

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830 EAST EIGHTH ST
CINCINNATI, OH 45202

HKS ARCHITECTS, INC.
350 N. SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

CONSULTANTS:

STRUCTURAL ENGINEER
THP Ltd.
105 E 8th St.
Cincinnati, OH 45202
v 513.241.2022
www.thpltd.com

MEP ENGINEER
PIECZKO B.A. Barbara, Inc.
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v 513.782.1600
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West Chester, OH 45069
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www.kalandgin.net

Cincinnati Children's Hospital Medical Center
Liberty Campus
Inpatient Expansion

7777 Yankee Rd.
Liberty Township,
Butler County, OH 45044

CONSTRUCTION MANAGER
Messer Construction Co.
2488 Langdon Farm Road
Cincinnati, OH 45237
v 513.272.6000
www.messer.com

Drawing Issue:
BID PACKAGE 1
EARLY SITE - PARKING AND UTILITIES

No.	Date	Description
1	9/9/13	Early Site - Parking and Utilities
2	10/21/2013	Addenda 1
3	11/8/2013	Addenda 2

Drawing Title
GRADING & EROSION CONTROL PLAN

GBBN Job Number: 13257.03
HKS Job Number: 16051.010
Scale:
Date: 9/9/13

STATE OF OHIO DARREN THOMAS REASOR EVITE 8/6/13 REGISTERED PROFESSIONAL ENGINEER

C250

TRADE	COMPANY	SIGN	DATE	REVISIONS NO.	DESCRIPTION	DATE

CINCINNATI CHILDREN'S
HOSPITAL LIBERTY

NELSON STARK COMPANY
7685 FIELDS ERTEL ROAD
CINCINNATI, OHIO 45241
PHONE: (513) 489-0866
FAX: (513) 489-1422

NELSON STARK

DRAWN BY	CHECKED BY
BMP	

PROJECT NO.
13-095

DATE	SCALE
02-03-16	1"=30'

REF. DWG. NO.

DRAWING TITLE
UTILITY
AS-BUILT

SHEET NO.
AS-1.1



REVISIONS			
NO.	DESCRIPTION	DATE	

TRADE	COMPANY	SIGN	DATE
DUCT			
PIPING			
PLUMB			
F.P.			
ELECT			

CINCINNATI CHILDREN'S
LIBERTY PARKING LOTS
7777 YANKEE ROAD
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO 45044

NELSON STARK COMPANY
7685 FIELDS ERTEL ROAD
CINCINNATI, OHIO 45241
PHONE: (513) 489-0866
FAX: (513) 489-1422

NELSON STARK

DRAWN BY	CHECKED BY
BMP	

PROJECT NO.
13-100

DATE	SCALE
01-17-14	1"=20'

REF. DWG. NO.

DRAWING TITLE
STORM
AS-BUILT

SHEET NO.
STM-A.2



REVISIONS			
NO.	DESCRIPTION	DATE	

TRADE	COMPANY	SIGN	DATE
DUCT			
PIPING			
PLUMB			
F.P.			
ELECT			

CINCINNATI CHILDRENS
LIBERTY PARKING LOTS
7777 YANKEE ROAD
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO 45044

NELSON STARK COMPANY
7685 FIELDS ERTEL ROAD
CINCINNATI, OHIO 45241
PHONE: (513) 489-0866
FAX: (513) 489-1422

NELSON STARK

DRAWN BY	CHECKED BY
BMP	

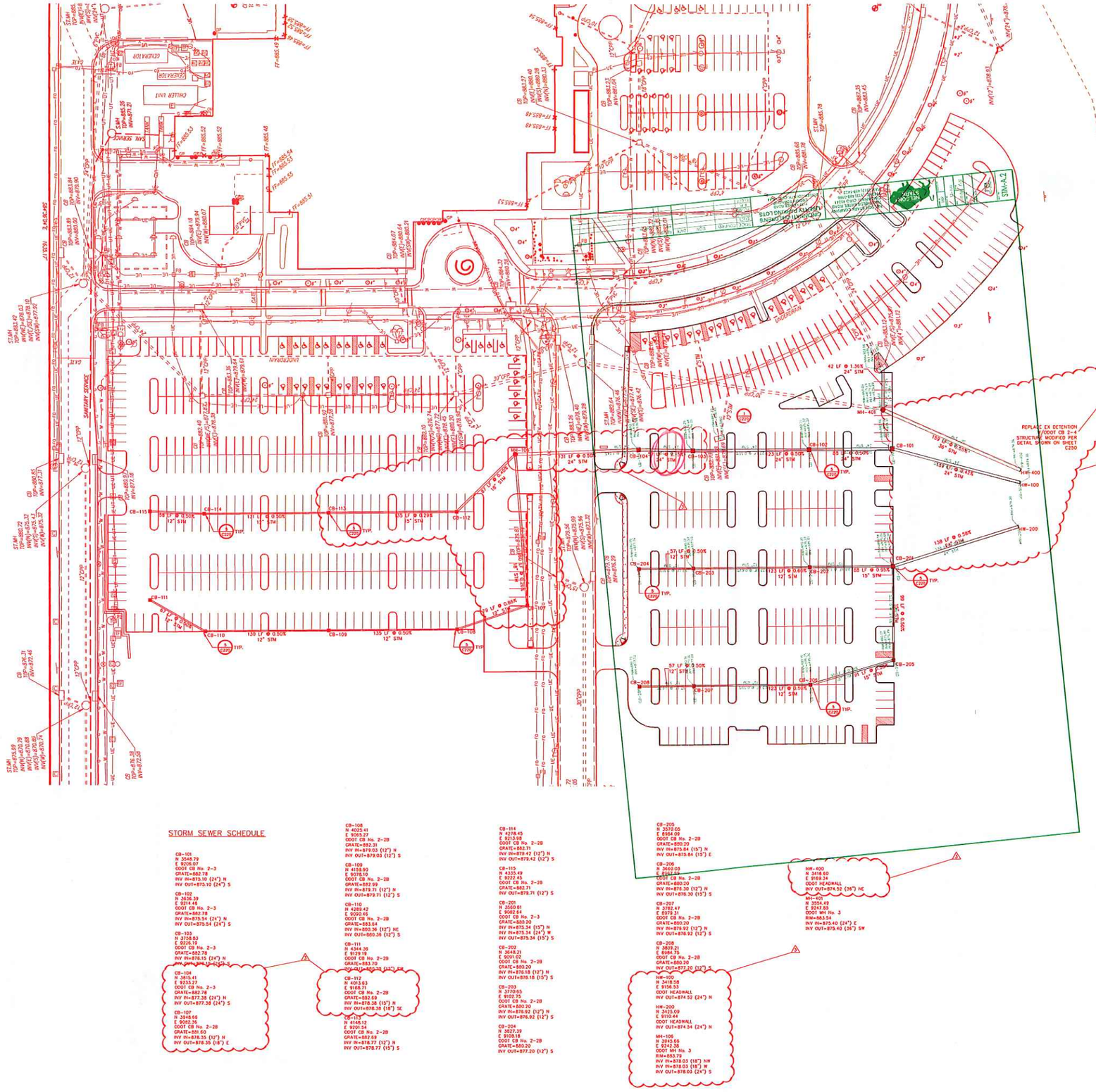
PROJECT NO.
13-100

DATE	SCALE
01-17-14	1"=20'

REF. DWG. NO.

DRAWING TITLE
STORM
AS-BUILT

SHEET NO.
STM-A.1



STORM SEWER SCHEDULE

CB-101
N 3546.79
E 9206.07
COOT CB No. 2-3
GRATE=882.78
INV IN=873.10 (24") N
INV OUT=873.10 (24") S

CB-102
N 3636.39
E 9214.46
COOT CB No. 2-3
GRATE=882.78
INV IN=875.54 (24") N
INV OUT=875.54 (24") S

CB-103
N 3708.83
E 9226.10
COOT CB No. 2-3
GRATE=882.78
INV IN=876.15 (24") N
INV OUT=876.15 (24") S

CB-104
N 3815.41
E 9233.27
COOT CB No. 2-3
GRATE=882.78
INV IN=877.35 (24") N
INV OUT=877.35 (24") S

CB-105
N 4025.41
E 9065.27
COOT CB No. 2-28
GRATE=882.31
INV IN=879.03 (12") N
INV OUT=879.03 (12") S

CB-106
N 4025.41
E 9065.27
COOT CB No. 2-28
GRATE=882.31
INV IN=879.03 (12") N
INV OUT=879.03 (12") S

CB-107
N 3948.66
E 9082.36
COOT CB No. 2-28
GRATE=881.60
INV IN=878.35 (12") N
INV OUT=878.35 (18") E

CB-108
N 4025.41
E 9065.27
COOT CB No. 2-28
GRATE=882.31
INV IN=879.03 (12") N
INV OUT=879.03 (12") S

CB-109
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E 9075.10
COOT CB No. 2-28
GRATE=882.99
INV IN=879.71 (12") N
INV OUT=879.71 (12") S

CB-110
N 4269.42
E 9090.46
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GRATE=883.64
INV IN=880.36 (12") NE
INV OUT=880.36 (12") S

CB-111
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E 9129.19
COOT CB No. 2-28
GRATE=883.70
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INV OUT=880.92 (12") SW

CB-112
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E 9168.71
COOT CB No. 2-28
GRATE=882.69
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CB-113
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E 9091.54
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GRATE=882.69
INV IN=878.77 (12") N
INV OUT=878.77 (15") S

CB-114
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INV OUT=879.42 (12") S

CB-115
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E 9222.45
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INV OUT=879.71 (12") S

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N 3569.61
E 9082.64
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GRATE=880.20
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INV OUT=876.18 (15") S

CB-203
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GRATE=880.20
INV IN=876.92 (12") N
INV OUT=876.92 (12") S

CB-204
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E 9108.18
COOT CB No. 2-28
GRATE=880.20
INV OUT=877.20 (12") S

CB-205
N 3570.05
E 8984.09
COOT CB No. 2-28
GRATE=880.20
INV IN=875.84 (15") N
INV OUT=875.84 (15") E

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CB-207
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GRATE=880.20
INV IN=876.92 (12") N
INV OUT=876.92 (12") S

CB-208
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COOT CB No. 2-28
GRATE=880.20
INV OUT=877.20 (12") S

MH-100
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E 8156.53
COOT HEADWALL
INV OUT=874.52 (24") N

HW-200
N 3423.09
E 9110.44
COOT HEADWALL
INV OUT=874.54 (24") N

MH-106
N 3943.66
E 8242.36
COOT MH No. 3
RIM=883.79
INV IN=878.03 (18") NW
INV IN=878.03 (18") W
INV OUT=878.03 (24") S

HW-400
N 3418.60
E 9169.34
COOT HEADWALL
INV OUT=874.52 (36") NE

MH-401
N 3554.49
E 9247.83
COOT MH No. 3
RIM=883.54
INV IN=875.40 (24") E
INV OUT=875.40 (36") SW

GBBN architects
HKS

ARCHITECT (GBBN/HKS LLC)

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HKS ARCHITECTS, INC.
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DALLAS, TX 75201

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Cincinnati, Ohio 45202
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7777 Yankee Rd.
Liberty Township,
Butler County, OH 45044

CONSTRUCTION MANAGER
Messer Construction Co.
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Cincinnati, OH 45237
v 513.672.5000
www.messer.com

Drawing Issue
BID PACKAGE 1
EARLY SITE - PARKING AND UTILITIES

No.	Date	Description
1	8/2/13	Bulletin - Parking and Utilities
2	8/21/2013	Bulletin 2
3	9/9/2013	Bulletin 3

Drawing Title
UTILITY PLAN

GBBN Job Number: 13257.03
HKS Job Number: 16051.010
Scale:
Date: 9/9/13

STATE OF OHIO — KAREN THORNE — REGISTERED — E-6878 — PROFESSIONAL ENGINEER — 9/9/13

OHIO Utilities Protection Service 811 or 1-800-362-2764 Call Before You Dig

C260

8/2/2013 3:53:47 AM D:\Revit\central_CCHMCLIBERTY_SHELL_2014_tjsmith.rvt

STORM SEWER SCHEDULE

CB-101
N 3348.79
E 9200.40
CDOT CB No. 2-3
GRATE=882.78
INV IN=875.10 (24") N
INV OUT=875.10 (24") S

CB-102
N 3636.39
E 9214.48
CDOT CB No. 2-3
GRATE=882.78
INV IN=875.54 (24") N
INV OUT=875.54 (24") S

CB-103
N 3706.83
E 9229.19
CDOT CB No. 2-3
GRATE=882.78
INV IN=876.15 (24") N
INV OUT=876.15 (24") S

CB-104
N 3815.41
E 9233.27
CDOT CB No. 2-3
GRATE=882.78
INV IN=877.35 (24") N
INV OUT=877.35 (24") S

CB-107
N 3948.66
E 9082.36
CDOT CB No. 2-28
GRATE=881.60
INV IN=878.35 (12") N
INV OUT=878.35 (18") E

CB-108
N 4025.41
E 9065.27
CDOT CB No. 2-28
GRATE=883.31
INV IN=879.03 (12") N
INV OUT=879.03 (12") S

CB-109
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E 9078.10
CDOT CB No. 2-28
GRATE=882.99
INV IN=879.71 (12") N
INV OUT=879.71 (12") S

CB-110
N 4289.42
E 9090.45
CDOT CB No. 2-28
GRATE=883.64
INV IN=880.36 (12") NE
INV OUT=880.36 (12") S

CB-111
N 4344.36
E 9129.19
CDOT CB No. 2-28
GRATE=883.70
INV IN=880.70 (12") NW
INV OUT=880.70 (12") SW

CB-112
N 4053.63
E 9183.71
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GRATE=882.69
INV IN=878.38 (15") N
INV OUT=878.38 (15") SE

CB-113
N 4145.12
E 9201.54
CDOT CB No. 2-28
GRATE=882.69
INV IN=878.77 (12") N
INV OUT=878.77 (15") S

CB-114
E 9278.49
E 9213.89
CDOT CB No. 2-28
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INV IN=879.42 (12") N
INV OUT=879.42 (12") S

CB-115
N 4330.49
E 9222.43
CDOT CB No. 2-28
GRATE=882.71
INV IN=879.71 (12") N
INV OUT=879.71 (12") S

CB-200
N 3560.61
E 9062.64
CDOT CB No. 2-3
GRATE=883.20
INV IN=875.34 (15") N
INV IN=875.34 (24") W
INV OUT=875.34 (15") S

CB-202
N 3646.21
E 9091.02
CDOT CB No. 2-28
GRATE=880.20
INV IN=876.18 (12") N
INV OUT=876.18 (15") S

CB-203
N 3770.65
E 9102.55
CDOT CB No. 2-28
GRATE=880.20
INV IN=876.92 (12") N
INV OUT=876.92 (12") S

CB-204
N 3827.39
E 9108.18
CDOT CB No. 2-28
GRATE=880.20
INV IN=877.20 (12") S

CB-205
N 3910.03
E 9064.09
CDOT CB No. 2-28
GRATE=880.20
INV IN=875.84 (15") N
INV OUT=875.84 (15") E

CB-206
N 3993.83
E 9067.50
CDOT CB No. 2-28
GRATE=880.20
INV IN=876.30 (15") N
INV OUT=876.30 (15") S

CB-207
N 3782.97
E 9079.31
CDOT CB No. 2-28
GRATE=880.20
INV IN=876.92 (12") N
INV OUT=876.92 (12") S

CB-208
N 3838.75
E 9064.79
CDOT CB No. 2-28
GRATE=880.20
INV IN=877.20 (12") S

HW-100
N 3418.58
E 9134.53
CDOT HEADWALL
INV OUT=874.52 (24") N

HW-200
N 3425.09
E 9110.44
CDOT HEADWALL
INV OUT=874.54 (24") N

HW-106
N 3945.66
E 9242.36
CDOT MH No. 3
RIM=883.79
INV IN=878.03 (18") NW
INV IN=878.03 (18") W
INV OUT=878.03 (24") S

HW-400
N 3416.62
E 9169.34
CDOT HEADWALL
INV OUT=874.52 (36") NE

MH-401
N 3554.49
E 9247.83
CDOT MH No. 3
RIM=883.54
INV IN=873.40 (24") E
INV OUT=875.40 (36") SW

REPLACE EX DETENTION W/CDOT CB 2-4 STRUCTURE MODIFIED PER DETAIL SHOWN ON SHEET C250

MITIGATION EASEMENT

0 20 40 80

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811 or 1-800-362-2764
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HKS Job Number: 16051.010
Scale:
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Seal: STATE OF OHIO — KAREN THORUP REASONEYRE — E-61577 — REGISTERED PROFESSIONAL ENGINEER

C260

8/30/2013 4:34:47 AM C:\Revit\Arch_CCHMC\LIBERTY_CIVIL_SITE_tyler.rvt