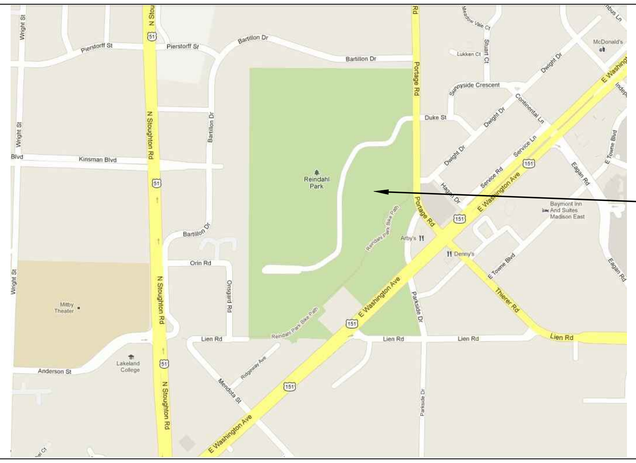
AMUND REINDAHL PARK SPLASH PAD

1818 PORTAGE ROAD

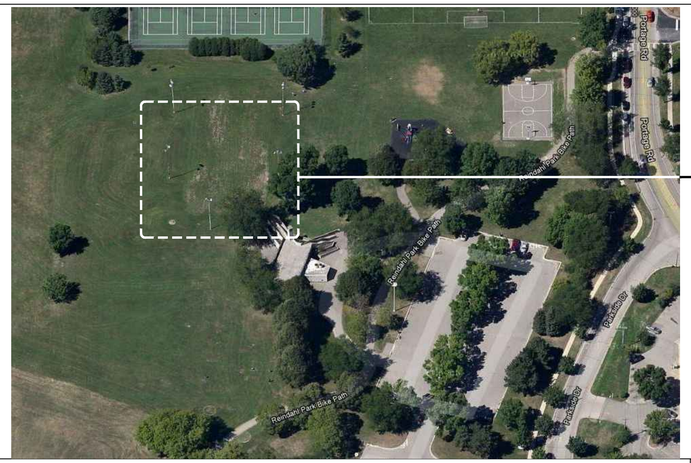
MADISON, WI 53704



LOCATION MAP

6

NONE



SITE PLAN

3

NONE

SHEET LIST

1

NONE

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C200	DEMOLITION AND EROTION CONTROL PLAN
C300	SITE AND GRADING PLAN
C500	UTILITY PLAN
C501	WATERMAIN & SANITARY SEWER PLAN AND PROFILE
C502	WATERMAIN PLAN AND PROFILE
C900	DETAILS - SEWER
C900.1	DETAILS - SEWER
C901	DETAILS - WATER MAIN
C902	DETAILS
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SITE	
SD1.00	OVERALL SITE PLAN
SD2.00	GRADING PLAN AND 5 INCH CONCRETE LAYOUT
SD3.00	SITE DETAILS
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A1.01	BUILDING SECTIONS AND DETAILS
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PL1.11	POOL A - SPLASH PAD DIMENSION PLAN
PL1.12	POOL A - SECTION, DETAILS
PL1.13	WATER FEATURE DETAILS
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PLUMBING	
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P200	PLUMBING RISER DIGRAMS
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P901	PLUMBING SPECIFICATIONS
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ELECTRICAL	
E000	ELECTRICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
E100	ELECTRICAL FLOOR PLAN, DETAILS AND SCHEDULES
E600	ELECTRICAL SPECIFICATIONS

THIS SPACE NOT USED

7

NONE

ELECTRICAL NOTES

5

NONE

ELECTRICAL NOTES

1. ALL WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE ARTICLE 680 (2011), STATE, AND LOCAL ELECTRICAL CODES.
2. THE SPLASH PAD SHALL BE GROUNDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION). .
3. THE SPLASH PAD SHALL BE BONDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
4. THE CHEMICAL CONTROLLER, SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.
5. THE CHLORINE BOOSTER PUMP , SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.

CONTACTS

4

NONE

OWNER

CITY OF MADISON PARKS DIVISION
CITY-COUNTY BUILDING, RM 104
210 MARTIN LUTHER KING, JR. BLVD.
MADISON, WI 53703
OWNER PROJECT REP. : SARAH LERNER
PHONE: 608-261-4281

ARCHITECT/AQUATIC DESIGN

WATER TECHNOLOGY, INC.
100 PARK AVENUE
BEAVER DAM, WI 53916
PHONE: 920-887-7375
WEB SITE: www.watertechnologyinc.com
PROJECT MANAGER: DEAN MUELLER, AIA

ENGINEER

GRAEF
1150 SPRINGHURST DRIVE, SUITE 201
GREEN BAY, WI 54304
PHONE: 920-592-9440
WEB SITE: www.graef-usa.com
ENGINEER: JEFFERY S. ROSNER, P.E.

BUILDING INFORMATION

2

NONE

BUILDING INFORMATION
CODE SUMMERY: (2011 WCBC - 2009 IBC/IMC)

BUILDING AREA 555 SQ. FT.
TYPE OF CONSTRUCTION VB
OCCUPANCY
MECHANICAL/CONCESSIONS B

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

#12408.01

WISCONSIN
DEAN G. MUELLER
A-7251
BEAVER DAM
WIS.
ARCHITECT
06/20/2013

REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

TITLE SHEET

TITLE SHEET

Date: Thursday, June 20, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 COVER.dwg

PARKING LOT

OVERFLOW STAGING AREA

ASPHALT

TENNIS COURT

SOCCER FIELD

LIMITS OF PROPOSED DISTURBED AREA, SEE C200 FOR FULL EXTENT

CONSTRUCTION ENTRANCE TO BE LOCATED AT PROPOSED BIKE PATH LOCATION

BASKETBALL COURT

EXISTING LIGHT POLE AND CONCRETE BASE, TYP

EXISTING CULVERT

HOCKEY RINK

PLAYGROUND

GRASSY AREA/ LAWN, TYP

NOTES:

1. STAGING AREAS TO BE SURROUNDED BY CONSTRUCTION FENCE. TURF THAT IS DISTURBED MUST BE REPAIRED - COST FOR SEED IS INCLUDED, BUT ALL OTHER COST IS INCIDENTAL TO CONTRACT.

2. THE CONTRACTOR WILL BE ALLOWED TO STORE EQUIPMENT AND MATERIALS WITHIN THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL SECURE MATERIALS AT THE END OF EACH WORK DAY TO DETER ANY POTENTIAL VANDALISM AND THEFT.

EXISTING TREE, TYP

BIKE PATH

PRIMARY STAGING AREA

GRAVEL

EXISTING CONCRETE PATIO

SHELTER

LIMITS OF DISTURBED AREA

EXISTING CONCRETE PAD AND BICYCLE RACK FOR BIKE PARKING

SKATING RINK

BIKE PATH

PARKING LOT

SURVEY NOTES

1. THE BASE SURVEY WAS PREPARED BY THE CITY OF MADISON. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THEREOTO.

2. COORDINATES ARE BASED THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY. NORTH AMERICAN DATUM OF 1983, 2007 ADJUSTMENT (NAD83(07)). NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

01 C100 EXISTING SITE PLAN

1" = 30'

0 15' 30'

SCALE: 1" = 30'

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WATER TECHNOLOGY INC.

100 Park Avenue
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Beaver Dam, Wisconsin 53916
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Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

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GRÄEF

5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

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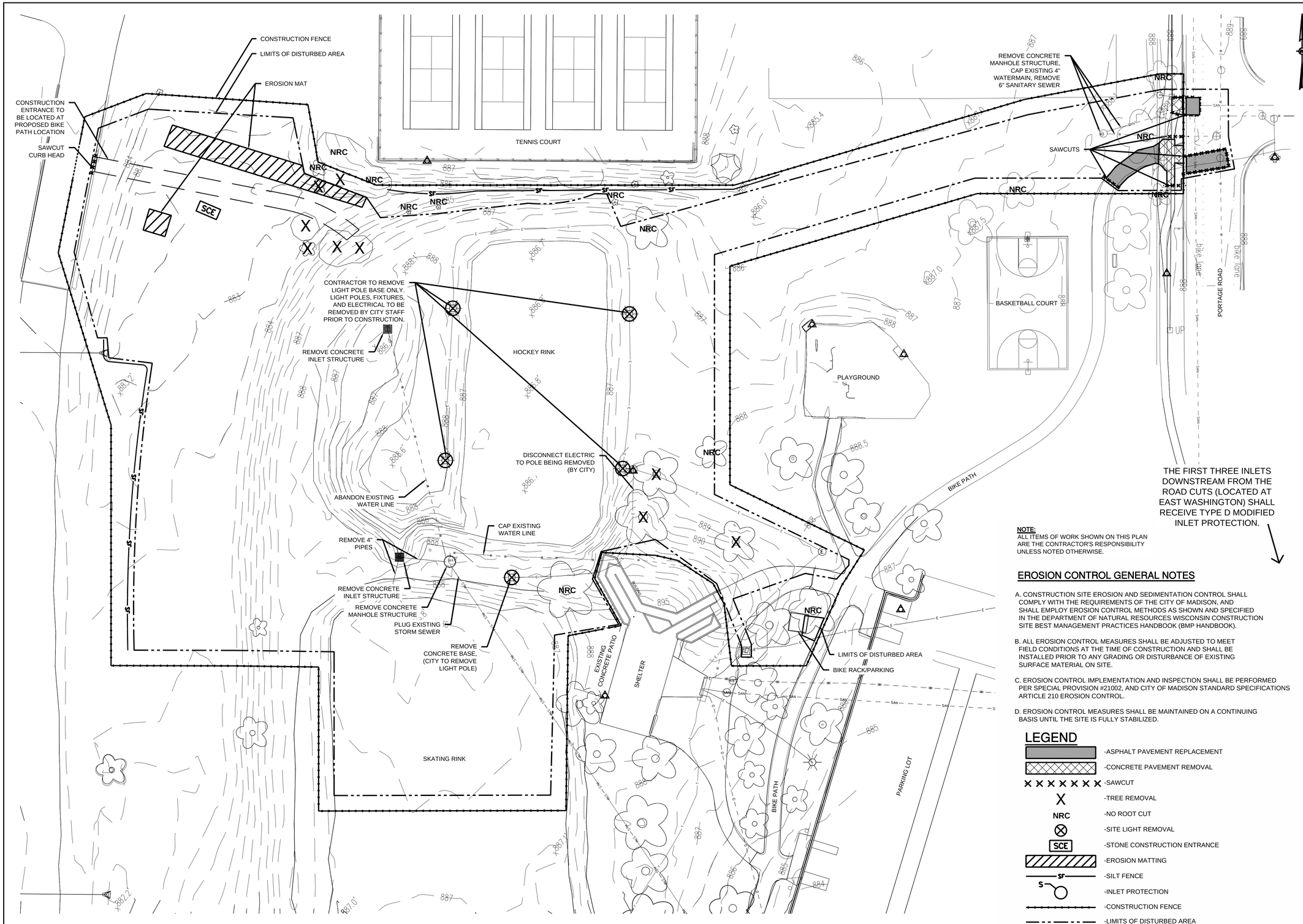
EXISTING SITE PLAN

C100



NOTE:
ALL ITEMS OF WORK SHOWN ON THIS PLAN ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS NOTED OTHERWISE.

EROSION CONTROL GENERAL NOTES

A. CONSTRUCTION SITE EROSION AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF MADISON, AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE DEPARTMENT OF NATURAL RESOURCES WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK (BMP HANDBOOK).

B. ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON SITE.

C. EROSION CONTROL IMPLEMENTATION AND INSPECTION SHALL BE PERFORMED PER SPECIAL PROVISION #21002, AND CITY OF MADISON STANDARD SPECIFICATIONS ARTICLE 210 EROSION CONTROL.

D. EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS FULLY STABILIZED.

LEGEND

- -ASPHALT PAVEMENT REPLACEMENT
- -CONCRETE PAVEMENT REMOVAL
- -SAWCUT
- -TREE REMOVAL
- NRC -NO ROOT CUT
- -SITE LIGHT REMOVAL
- SCE -STONE CONSTRUCTION ENTRANCE
- -EROSION MATTING
- SF -SILT FENCE
- S -INLET PROTECTION
- -CONSTRUCTION FENCE
- -LIMITS OF DISTURBED AREA

01 C200 DEMOLITION AND EROSION CONTROL PLAN
1" = 30'

0 15' 30'
SCALE: 1" = 30'

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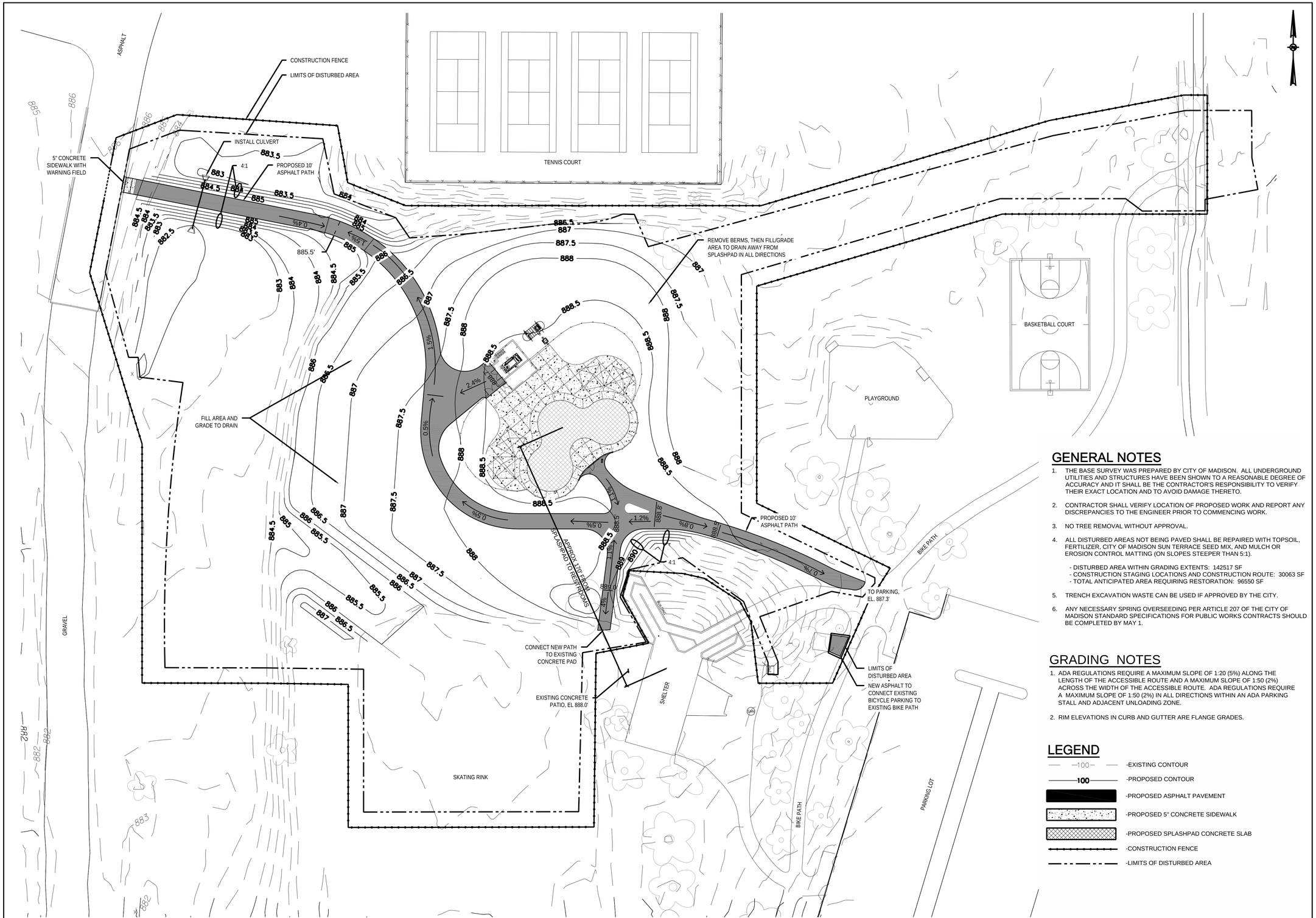
DEMOLITION AND EROSION CONTROL PLAN

C200



GENERAL NOTES

1. THE BASE SURVEY WAS PREPARED BY CITY OF MADISON. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
2. CONTRACTOR SHALL VERIFY LOCATION OF PROPOSED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
3. NO TREE REMOVAL WITHOUT APPROVAL.
4. ALL DISTURBED AREAS NOT BEING PAVED SHALL BE REPAIRED WITH TOPSOIL, FERTILIZER, CITY OF MADISON SUN TERRACE SEED MIX, AND MULCH OR EROSION CONTROL MATTING (ON SLOPES STEEPER THAN 5:1).
   - DISTURBED AREA WITHIN GRADING EXTENTS: 142517 SF
   - CONSTRUCTION STAGING LOCATIONS AND CONSTRUCTION ROUTE: 30063 SF
   - TOTAL ANTICIPATED AREA REQUIRING RESTORATION: 96550 SF
5. TRENCH EXCAVATION WASTE CAN BE USED IF APPROVED BY THE CITY.
6. ANY NECESSARY SPRING OVERSEEDING PER ARTICLE 207 OF THE CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONTRACTS SHOULD BE COMPLETED BY MAY 1.

GRADING NOTES

1. ADA REGULATIONS REQUIRE A MAXIMUM SLOPE OF 1:20 (5%) ALONG THE LENGTH OF THE ACCESSIBLE ROUTE AND A MAXIMUM SLOPE OF 1:50 (2%) ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE. ADA REGULATIONS REQUIRE A MAXIMUM SLOPE OF 1:50 (2%) IN ALL DIRECTIONS WITHIN AN ADA PARKING STALL AND ADJACENT UNLOADING ZONE.
2. RIM ELEVATIONS IN CURB AND GUTTER ARE FLANGE GRADES.

LEGEND

- -EXISTING CONTOUR
- -PROPOSED CONTOUR
- -PROPOSED ASPHALT PAVEMENT
- -PROPOSED 5" CONCRETE SIDEWALK
- -PROPOSED SPLASHPAD CONCRETE SLAB
- -CONSTRUCTION FENCE
- -LIMITS OF DISTURBED AREA

01 C300 SITE/GRADING PLAN
1" = 30'

0 15' 30'
SCALE: 1" = 30'

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com
#12408.01

GRAEF
5126 West Terrace Drive,
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608 / 242 1550
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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

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SITE AND GRADING PLAN

C300

NOTE:
CONTRACTOR TO DEVELOP TRAFFIC CONTROL PLAN FOR INSTALLING SANITARY SEWER AND WATER MAIN IN PORTAGE ROAD.

TRAFFIC VOLUMES MAY DICTATE USE OF FLAGGERS TO INSTALL PIPES AND REPAIR STREET BETWEEN THE HOURS OF 9 A.M. - 3 P.M..

CONSTRUCTION FENCE
LIMITS OF DISTURBED AREA
FUTURE WATER MAIN, BY OTHERS
WATER MAIN EXTENSION TO END AT PROPOSED SHUT-OFF VALVE, INSTALL 10" GATE VALVE AND BOX
PROPOSED 2" TYPE K COPPER WATER SERVICE TO SPLASHPAD BUILDING
PROPOSED 10" DUCTILE IRON WATER MAIN
PROPOSED LOCATION FOR ELECTRICAL TRANSFORMER, INSTALL CONCRETE PAD, COORDINATE SIZE AND LOCATION WITH MG&E AND CITY OF MADISON PARKS DIVISION
PROPOSED 10" DUCTILE IRON WATER MAIN
INSTALL 22.5° BEND
EXISTING MANHOLE WEST IE = 880.81
IE = 883.00
IE = 882.50
INSTALL 30 LF 18" RCP WITH (2) APRON ENDWALLS
INSTALL 2" SHUT-OFF VALVE AND CURB BOX AND BLOW POINT, ITEMS ARE INCIDENTAL TO 2" WATER SERVICE
ELECTRICAL SERVICE, PROVIDE (1) SET OF (3) #3/0 AWG AND (1) #3 GROUND IN EACH OF (2) 2" SCH 40 PVC CONDUIT
INSTALL 10"x6" TEE
INSTALL 11.25° BEND
400'-8" @ 0.40%
INSTALL 10" GATE VALVE
CONNECT WATER MAIN EXTENSION TO EXISTING PIPE IN PORTAGE ROAD
INSTALL 45° BEND
4" PVC STORM/ OVERFLOW PIPING, DRAIN TO DITCH
PROPOSED 6" DUCTILE IRON WATER MAIN
SAS A
NE IE = 882.41
SW IE = 882.50
70'-6" @ 1.0%
IE = 883.20 (5.8' B.F.F.)
RINSE-OFF SHOWER
1" TYPE K COPPER WATER LINES TO DRINKING FOUNTAIN, AND SHOWER (TYPE K COPPER)
INSTALL 6" GATE VALVE
PROPOSED NEW HYDRANT
RINSE-OFF SHOWER
DRINKING FOUNTAIN, PROVIDED BY THE CITY OF MADISON, INSTALLED BY THE CONTRACTOR
1" PVC PIPE, CAPPED AT BOTH ENDS, FOR FUTURE ELECTRICAL
ELECTRICAL SERVICE, BY MG&E
EXISTING CONCRETE PATIO
bike lane
UP

LEGEND

- -PROPOSED STORM SEWER
- -PROPOSED SANITARY SEWER
- -PROPOSED WATER MAIN
- -PROPOSED ELECTRICAL
- -CONSTRUCTION FENCING
- -LIMITS OF DISTURBED AREA
- -PROPOSED MANHOLE
- -PROPOSED CATCH BASIN
- -PROPOSED GATE VALVE
- -PROPOSED HYDRANT
- -PROPOSED UTILITY PLUG
- -PROPOSED BLOW POINT

01 C500 UTILITY PLAN
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0 15' 30'
SCALE: 1" = 30'

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MADISON, WI 53704

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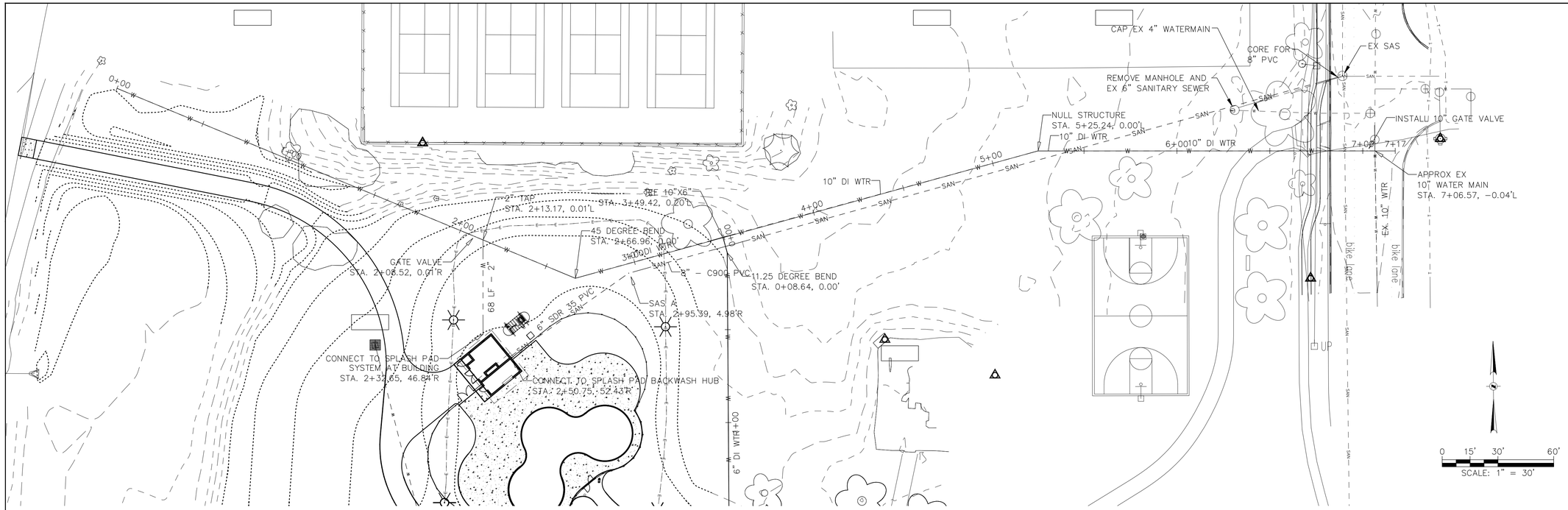
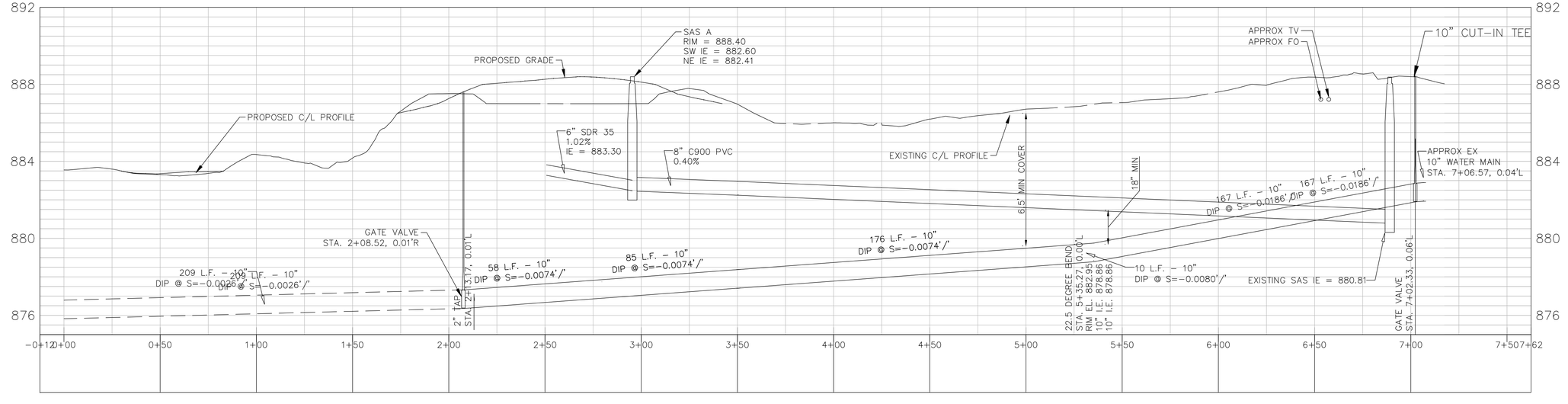
UTILITY PLAN

C500



PROPOSED WATERMAIN #1 PROFILE



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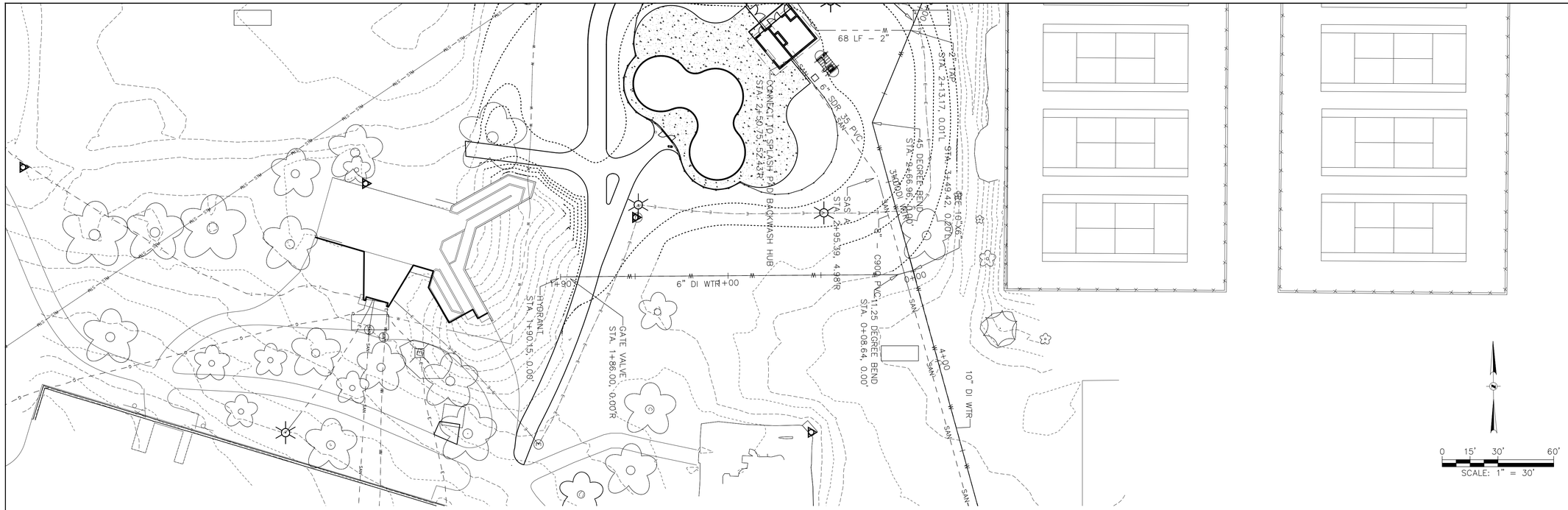
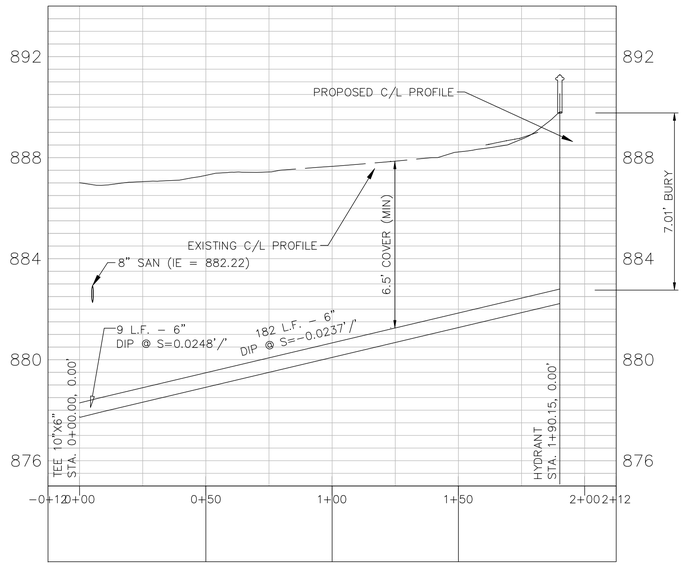
WATERMAIN & SANITARY SEWER PLAN AND PROFILE

C501



PROPOSED WATERMAIN #2 PROFILE



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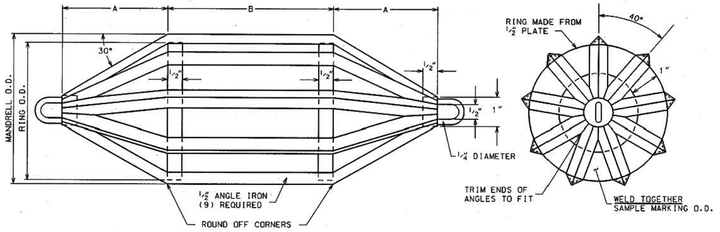
WATERMAIN PLAN AND PROFILE

C502



SIDE VIEW END VIEW

NOMINAL PIPE SIZE ID. in	DIMENSIONS A. in	DIMENSIONS B. in	MANDRELL O.D., in	RING O.D., in
6	4.0	4	5.61	4.90
8	5.3	6	7.36	6.65
10	6.7	6	9.21	8.50
12	8.0	8	11.06	10.35
15	10.0	9	13.82	13.11

MANDREL FOR USE IN ALL P.V.C. SEWER PIPE

2004

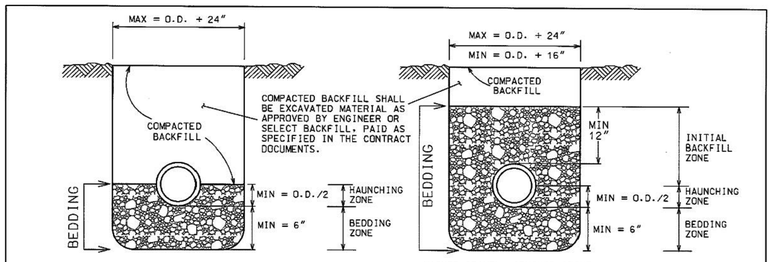
NOTE:

AFTER CONSTRUCTION IS COMPLETE, TRUE THE O.D. DIMENSION FOR THE FULL LENGTH OF "B" TO +/-0.010" BY TOOL AND LATHE OR GRINDING.

CITY OF MADISON
ENGINEERING DIVISION

MANDREL DETAIL

STANDARD DETAIL DRAWING 5.1.1



BEDDING FOR REINFORCED CONCRETE SEWER PIPES

BEDDING FOR SANITARY SEWER PIPES AS WELL AS METAL, ADS, AND PVC STORM PIPES

NOTES:

UNLESS OTHERWISE SPECIFIED, ALL SANITARY AND STORM SEWER PIPES, INCLUDING LATERALS AND LEADS, SHALL BE INSTALLED WITH THE TYPE OF BEDDING SHOWN FOR THE TYPE AND SIZE OF PIPE INSTALLED.

THE COSTS OF BEDDING SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PIPE.
FOR RCP, BEDDING INCLUDES THE HAUNCHING & BEDDING ZONES.
FOR PLASTIC PIPES, THE BEDDING INCLUDES THE HAUNCHING, BEDDING & INITIAL BACKFILL ZONES.
THE BEDDING SHALL BE INSTALLED & COMPACTED IN 6" MAXIMUM LIFTS.

ALL TRENCHES SHALL BE HAND BACKFILLED TO A POINT 12" ABOVE THE TOP OF THE PIPE. ALL BEDDING SHALL BE MECHANICALLY COMPACTED.

PAYMENT SHALL NOT BE MADE FOR BACKFILL WITH EXCAVATED MATERIAL, IF APPROVED, SELECT FILL, IF REQUIRED, SHALL BE PAID PER CONTRACT.

THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE O.D. + 24" AND MINIMUM OF OD + 16" AS SPECIFIED, AND SHALL APPLY FROM THE BOTTOM OF THE TRENCH TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THIS WIDTH IS EXCEEDED, THE CONTRACTOR SHALL FURNISH AND INSTALL A HIGHER TYPE OF BEDDING AT **NO EXTRA COST.** THE TYPE OF BEDDING SHALL BE DETERMINED BY THE ENGINEER.

O.D. EQUALS THE OUTSIDE DIAMETER OF THE PIPE.

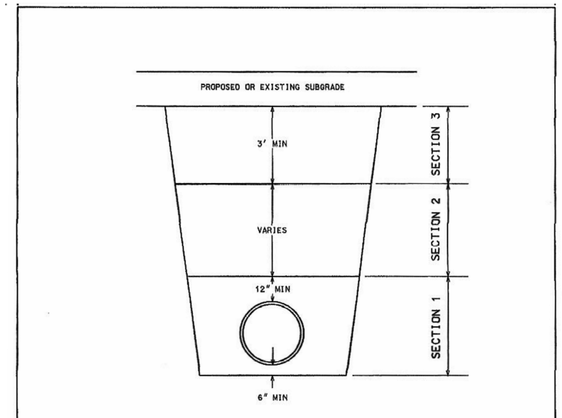
DRAWING NOT TO SCALE

2006

CITY OF MADISON
ENGINEERING DIVISION

PIPE BEDDING AND BACKFILL

STANDARD DETAIL DRAWING 5.2.1



TYPICAL TRENCH COMPACTION

ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER DUE TO THE CHARACTER OF THE MATERIAL AND THE COMPACTING EQUIPMENT. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUCCEEDING LIFTS OF BACKFILL MATERIAL.

IN COLD WEATHER, TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 502.1 (e), BACKFILLING EXCAVATIONS AND COMPACTION OF BACKFILL, OF THESE SPECIFICATIONS.

SECTION 1:

MECHANICALLY COMPACTED BEDDING AS REQUIRED BY THE SPECIFICATIONS. COMPACTION ACHIEVED WITH SMALLER PLATE COMPACTOR.
FOR ALL PLASTIC PIPE SECTION 1 SHALL BE INSTALLED IN ACCORDANCE WITH S.D.D. 5.2.1A

SECTION 2:

MINIMUM COMPACTION OF 90% MAXIMUM DENSITY. COMPACTION OF BACKFILL WITH BOMAG OR HOE-PAC SHALL NOT BEGIN UNTIL THE DEPTH OF BACKFILL MATERIAL IS TWO FEET ABOVE THE TOP OF PIPE.

SECTION 3:

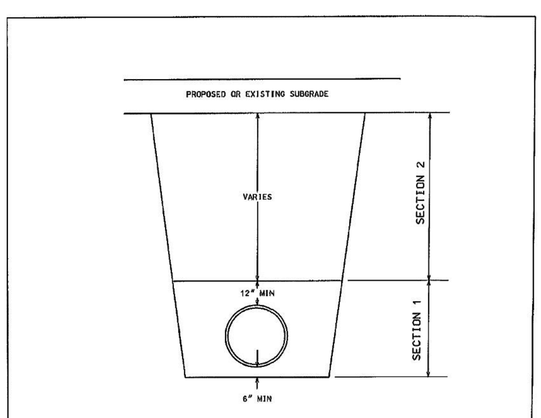
MINIMUM COMPACTION OF 95% MAXIMUM DENSITY.

2011

CITY OF MADISON
ENGINEERING DIVISION

TYPICAL TRENCH COMPACTION

STANDARD DETAIL DRAWING 5.2.2



TYPICAL TRENCH COMPACTION (GREENWAY/ PARK)

ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER DUE TO THE CHARACTER OF THE MATERIAL AND THE COMPACTING EQUIPMENT. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUCCEEDING LIFTS OF BACKFILL MATERIAL.

IN COLD WEATHER, TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 502.1 (e), BACKFILLING EXCAVATIONS AND COMPACTION OF BACKFILL, OF THESE SPECIFICATIONS.

IF PROPOSED PIPE IS LOCATED HORIZONTALLY WITHIN 15' OF AN EXISTING OR PROPOSED ASPHALT OR CONCRETE SURFACE, THEN THE PIPE TRENCH COMPACTION SHALL BE COMPLETED IN CONFORMANCE OF S.D.D. 5.2.2

SECTION 1:

MECHANICALLY COMPACTED BEDDING AS REQUIRED BY THE SPECIFICATIONS. COMPACTION ACHIEVED WITH SMALLER PLATE COMPACTOR.

SECTION 2:

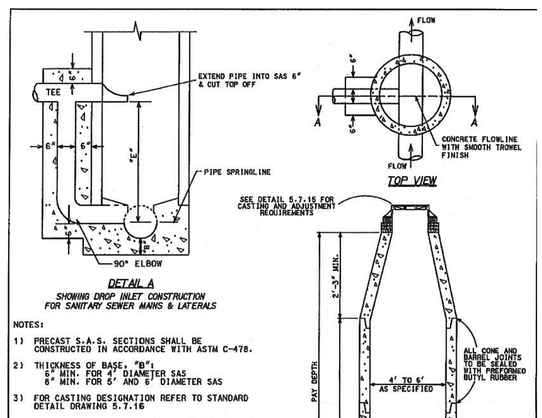
MINIMUM COMPACTION OF 90% MAXIMUM DENSITY. COMPACTION OF BACKFILL WITH BOMAG OR HOE-PAC SHALL NOT BEGIN UNTIL THE DEPTH OF BACKFILL MATERIAL IS TWO FEET ABOVE THE TOP OF PIPE.

2009

CITY OF MADISON
ENGINEERING DIVISION

TYPICAL TRENCH COMPACTION (GREENWAY/PARK)

STANDARD DETAIL DRAWING 5.2.3



DETAIL A
SHOWING DROP INLET CONSTRUCTION FOR SANITARY SEWER MAINS & LATERALS

NOTES:

1) PRECAST S.A.S. SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478.
2) THICKNESS OF BASE, "B":
   5" MIN. FOR 4' DIAMETER SAS
   6" MIN. FOR 5' AND 6' DIAMETER SAS
3) FOR CASTING DESIGNATION REFER TO STANDARD DETAIL DRAWING 5.7.16
4) CENTERED (CONCENTRIC) CONE SHALL BE INSTALLED UNLESS OTHERWISE DIRECTED.
5) DROP INLET SHALL BE BUILT FOR ALL SEWER MAINS AND LATERALS WHEN "E" IS GREATER THAN 24". "E" SHOULD BE MEASURED FROM INVERT OF INCOMING PIPE TO THE SPRINGLINE OF THE OUTGOING SEWER. INSIDE DROP PER STANDARD DETAIL DRAWING 5.7.30 MAY BE INSTALLED FOR 4" AND 6" SERVICE CONNECTIONS WHERE OUTSIDE DROP INLET CONSTRUCTION IS INFEASIBLE. ENGINEER SHALL APPROVE INSIDE DROP INLET PRIOR TO INSTALLATION.
6) FLEXIBLE PIPE TO SAS CONNECTOR REQUIRED PER STANDARD DETAIL DRAWING 5.7.31
7) ALL BENCHES TO BE FIELD POURED CONCRETE WITH SMOOTH TROWEL FINISH. PRECAST BENCHES ONLY PERMITTED WITH PRIOR APPORVAL OF ENGINEER IN WRITING.
8) ALL JOINTS BETWEEN RINGS SHALL BE SEALED WITH ¾" OF AIR-ENTRAINED TYPE M OR S MORTAR. THE OUTSIDE SURFACE OF THE ADJUSTING RINGS SHALL BE SEALED WITH A ¼" THICK AIR-ENTRAINED MORTAR TYPE M OR S SEAL. THE METHOD USED FOR SEALING THE OUTSIDE SURFACE SHALL BE COMPATIBLE WITH THAT USED TO SEAL JOINTS BETWEEN THE RINGS.
9) PRECAST SANITARY SEWER ACCESS STRUCTURES FOR STREET RECONSTRUCTION PROJECTS AND FOR STREET EXCAVATION PERMITS REQUIRE PRECAST SHOP DRAWING APPROVAL FROM CITY ENGINEERING. PRIOR TO BEING FABRICATED BY THE MANUFACTURER NO PRECAST SHOP DRAWINGS ARE REQUIRED FOR NEW CONSTRUCTION IN SUBDIVISION DEVELOPMENTS.

2010

CITY OF MADISON
ENGINEERING DIVISION

SANITARY SEWER PRECAST SAS

STANDARD DETAIL DRAWING 5.7.2

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

GRAEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

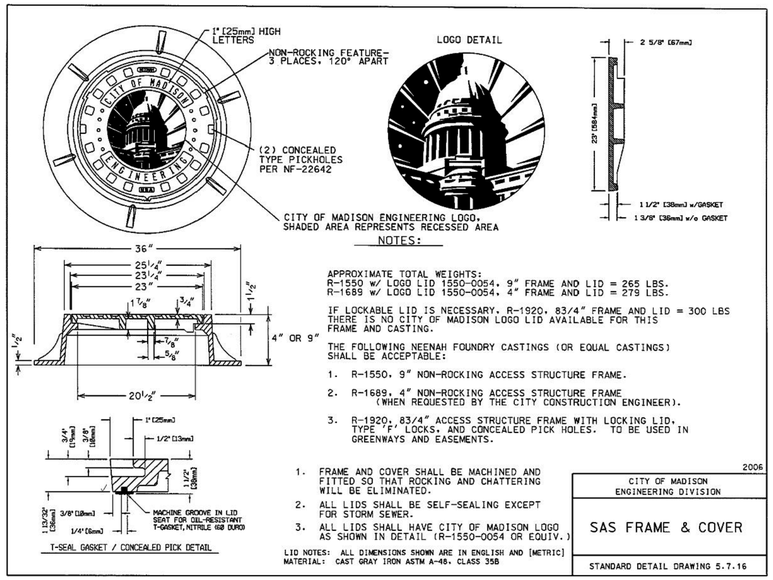
1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

DETAILS - SEWER

C900



NOTES:

APPROXIMATE TOTAL WEIGHTS:
R-1550 w/ LOGO LID 1550-0054, 9" FRAME AND LID = 265 LBS.
R-1689 w/ LOGO LID 1550-0054, 4" FRAME AND LID = 279 LBS.

IF LOCKABLE LID IS NECESSARY, R-1920, 83/4" FRAME AND LID = 300 LBS
THERE IS NO CITY OF MADISON LOGO LID AVAILABLE FOR THIS FRAME AND CASTING.

THE FOLLOWING NEENAH FOUNDRY CASTINGS (OR EQUAL CASTINGS) SHALL BE ACCEPTABLE:

1. R-1550, 9" NON-ROCKING ACCESS STRUCTURE FRAME.
2. R-1689, 4" NON-ROCKING ACCESS STRUCTURE FRAME (WHEN REQUESTED BY THE CITY CONSTRUCTION ENGINEER).
3. R-1920, 83/4" ACCESS STRUCTURE FRAME WITH LOCKING LID, TYPE 'F' LOCKS, AND CONCEALED PICK HOLES. TO BE USED IN GREENWAYS AND EASEMENTS.

1. FRAME AND COVER SHALL BE MACHINED AND FITTED SO THAT ROCKING AND CHATTERING WILL BE ELIMINATED.
2. ALL LIDS SHALL BE SELF-SEALING EXCEPT FOR STORM SEWER.
3. ALL LIDS SHALL HAVE CITY OF MADISON LOGO AS SHOWN IN DETAIL (R-1550-0054 OR EQUIV.)

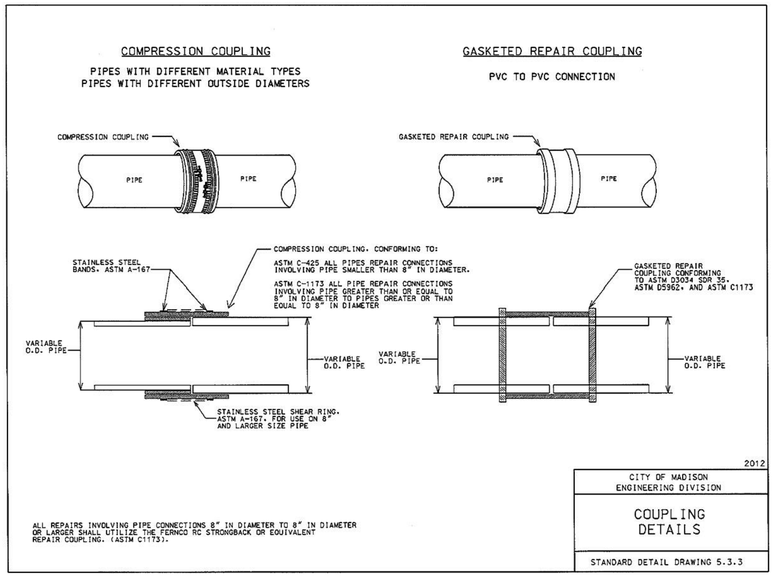
LID NOTES: ALL DIMENSIONS SHOWN ARE IN ENGLISH AND [METRIC]
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B

2006

CITY OF MADISON ENGINEERING DIVISION

SAS FRAME & COVER

STANDARD DETAIL DRAWING 5.7.16



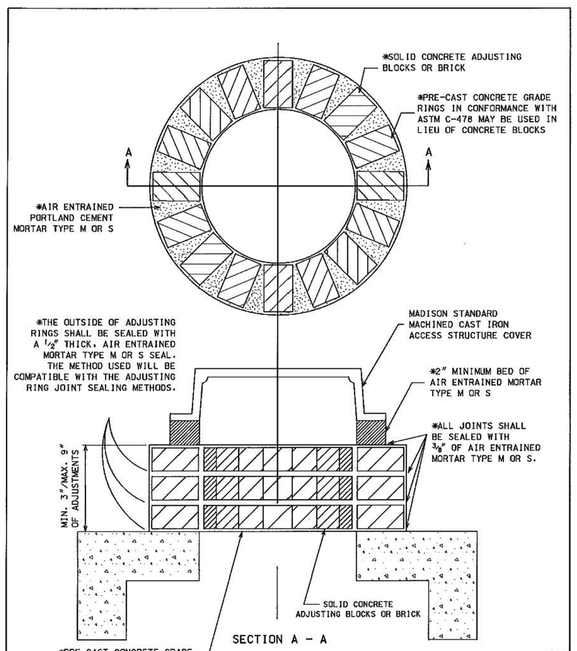
ALL REPAIRS INVOLVING PIPE CONNECTIONS 8" IN DIAMETER TO 8" IN DIAMETER OR LARGER SHALL UTILIZE THE FERNCO RC STRONGBACK OR EQUIVALENT REPAIR COUPLING. (ASTM C1173).

2012

CITY OF MADISON ENGINEERING DIVISION

COUPLING DETAILS

STANDARD DETAIL DRAWING 5.3.3



*NOTE: RUBBER ADJUSTMENT RINGS (CRETEX PRO-RING OR APPROVED EQUIV.) INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS WILL BE CONSIDERED AN ACCEPTABLE ALTERNATE TO PRECAST RINGS. IF RUBBER ADJUSTMENT RINGS ARE INSTALLED, THERE WILL BE NO NEED OR PAYMENT FOR AN INTERNAL CHIMNEY SEAL (SDD 5.7.17)

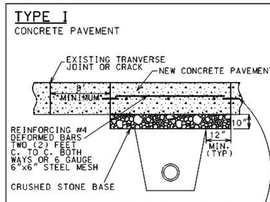
2011

CITY OF MADISON ENGINEERING DIVISION

SAS CHIMNEY AND CASTING

STANDARD DETAIL DRAWING 5.7.15

TYPE I
CONCRETE PAVEMENT



SEE SDD 3.10 FOR DOWEL AND PAVEMENT TIE INSTALLATION

TYPE I UTILITY TRENCH PATCH

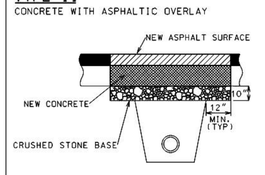
THE PAVEMENT SHALL BE REMOVED IN TWO STAGES. THE INITIAL PAVEMENT REMOVAL SHALL BE LIMITED TO THE AREA OF THE PROPOSED TRENCH. FULL-DEPTH SAWCUTTING WILL NOT BE REQUIRED FOR THIS PHASE OF THE PAVEMENT REMOVAL. AFTER THE TRENCH HAS BEEN BACKFILLED AND COMPACTED, AND AFTER THE BASE HAS BEEN RESTORED IN THE AREA OF THE TRENCH, AND AFTER SAWCUTTING THE NEW JOINTS THE FULL DEPTH OF THE EXISTING PAVEMENT (INCIDENTAL), THE REMAINING PAVEMENT TO BE REMOVED SHALL BE REMOVED WITHOUT DISTURBING THE EXISTING BASE.

THE SIZE OF THE PATCH SHALL BE DETERMINED BY THE TOP WIDTH OF THE TRENCH, THE LOCATION AND SKEW OF THE EXISTING TRANSVERSE JOINTS, THE CONDITION OF THE EXISTING PAVEMENT, AND THE CONDITION OF THE BASE. NEW TRANSVERSE JOINTS SHALL BE PARALLEL TO THE EXISTING TRANSVERSE JOINTS, AND SHALL BE A MININUM OF ONE (1) FOOT FROM THE TRENCH. THE DISTANCE BETWEEN NEW AND EXISTING TRANSVERSE JOINTS SHALL BE A MINIMUM OF EIGHT (8) FEET, MEASURED PERPENDICULAR TO THE JOINTS. THE PATCH SHALL BE A MINIMUM OF EIGHT (8) FEET IN LENGTH, AND SHALL HAVE THE SAME WIDTH AS THE PAVEMENT LANE.

THE PATCH SHALL BE NINE (9) INCHES IN THICKNESS OF HIGH EARLY STRENGTH CONCRETE, DOWELED AND TIED WITH EPOXY COATED BARS, AND REINFORCED. ALL IN ACCORDANCE WITH THE TYPICAL SECTION.

THE TRANSVERSE EDGES OF THE FINISHED PATCH SHALL BE FLUSH WITH THE EDGES OF THE EXISTING CONCRETE PAVEMENT. THE LONGITUDINAL SURFACE SHALL FORM A STRAIGHT LINE FROM EDGE TO EDGE WITHIN A TOLERANCE OF 1/8 INCH.

TYPE II
CONCRETE WITH ASPHALTIC OVERLAY



TYPE II UTILITY TRENCH PATCH

THE PATCH SHALL BE 7" HIGH EARLY STRENGTH CONCRETE BASE WITH THE SAME REINFORCEMENT AS THE EXISTING CONCRETE BASE, OVERLAID WITH ASPHALT UPPER LAYER, WHERE SPECIFIED, OR DIRECTED BY THE ENGINEER. THE BASE SHALL BE CONSTRUCTED OF ASPHALTIC BASE COURSE MATERIAL, SHALL BE THE SAME THICKNESS AS THE EXISTING BASE, AND SHALL BE LAID IN TWO OR MORE COMPACTED LIFTS OF NOT MORE THAN 3" IN THICKNESS EACH.

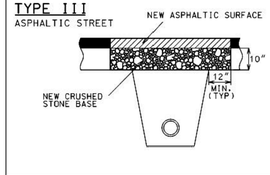
THE PAVEMENT ALONG THE PATCH SHALL BE SAWCUT, FULL DEPTH, AND INCIDENTAL TO THE TRENCH PATCH. THE EDGES OF THE PATCH SHALL BE VERTICAL, FREE OF LOOSE STONES OR CONCRETE PIECES, AND SHALL BE THOROUGHLY WETTED JUST PRIOR TO POURING THE NEW CONCRETE BASE.

THE TOP OF THE NEW CONCRETE OR ASPHALT BASE SHALL BE FLUSH WITH THE TOP OF THE EXISTING CONCRETE BASE.

PRIOR TO PLACING THE ASPHALT UPPER LAYER, THE EDGES OF THE PATCH AND THE SURFACE OF THE NEW CONCRETE BASE SHALL BE THOROUGHLY TACKED WITH LIQUID ASPHALT.

THE ASPHALT UPPER LAYER SHALL BE OF THE SAME THICKNESS AS THE EXISTING ASPHALT OVERLAY WITH A MINIMUM THICKNESS OF 3" AND A MAXIMUM THICKNESS OF 5½ UNLESS OTHERWISE SPECIFIED AND SHALL BE LAID IN ONE OR MORE COURSES AS DIRECTED BY THE ENGINEER. THE ASPHALTIC UPPER LAYER SHALL BE MACHINE LAID WHERE DIRECTED BY THE ENGINEER. WHERE THE ASPHALTIC UPPER LAYER IS MACHINE LAID, AND IS NOT MORE THAN 3" IN THICKNESS. THE ASPHALTIC SURFACE MAY BE LAID IN ONE LIFT.

TYPE III
ASPHALTIC STREET



TYPE III UTILITY TRENCH PATCH

THE PATCH SHALL BE CRUSHED STONE BASE COURSE, GRADATION NO. 2 OVERLAID WITH ASPHALT UPPER LAYER EQUAL IN THICKNESS TO THE EXISTING ASPHALTIC PAVEMENT WITH A MINIMUM THICKNESS OF 3" AND A MAXIMUM THICKNESS OF 5½ UNLESS OTHERWISE SPECIFIED AND LAID IN ONE OR MORE COURSES AS DIRECTED BY THE ENGINEER.

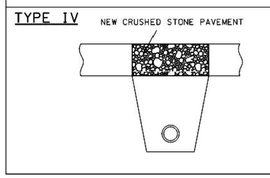
THE PAVEMENT ALONG THE PATCH SHALL BE SAWCUT, FULL DEPTH, AND INCIDENTAL TO THE TRENCH PATCH. THE EDGES OF THE EXISTING ASPHALTIC PAVEMENT SHALL BE FREE OF LOOSE STONES OR PAVEMENT MATERIAL.

THE CRUSED STONE BASE COURSE SHALL BE INSTALLED IN TWO LIFTS. THE LOWER LIFT SHALL BE THOROUGHLY MECHANICALLY COMPACTED PRIOR TO PLACING THE UPPER LIFT.

THE ASPHALT UPPER LAYER SHALL BE LAID IN TWO LIFTS. THE ASPHALT UPPER LAYER SHALL BE MACHINE LAID WHERE DIRECTED BY THE ENGINEER. WHERE THE ASPHALTIC UPPER LAYER IS MACHINE LAID AND IS NOT MORE THAN 3" IN THICKNESS. THE ASPHALT SURFACE COURSE MAY BE IN ONE LIFT.

PRIOR TO PLACING THE ASPHALT UPPER LAYER, THE EDGES OF THE PATCH AND THE SURFACE OF THE CRUSED STONE BASE SHALL BE TACKED AND PRIMED WITH LIQUID ASPHALT.

TYPE IV



TYPE IV UTILITY TRENCH PATCH

THE PATCH SHALL BE 9" CRUSHED STONE BASE COURSE, GRADATION NO. 2. FULL DEPTH SAWCUTTING OF ADJACENT PAVEMENT (IF ANY) SHALL BE CONSIDERED INCIDENTAL TO THE TRENCH PATCH.

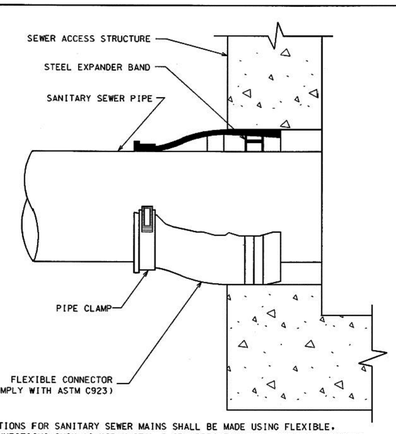
THE CRUSHED STONE BASE COURSE SHALL BE INSTALLED IN THREE LIFTS. EACH LIFT SHALL BE THOROUGHLY MECHANICALLY COMPACTED PRIOR TO PLACING SUCCEEDING LIFTS.

2012

CITY OF MADISON ENGINEERING DIVISION

TYPICAL PAVEMENT PATCH SECTIONS

STANDARD DETAIL DRAWING 5.2.4



NOTES:

1. S.A.S. CONNECTIONS FOR SANITARY SEWER MAINS SHALL BE MADE USING FLEXIBLE, WATERTIGHT CONNECTIONS SUCH AS KOR-N-SEAL I OR APPROVED EQUAL, UNLESS DIRECTED OTHERWISE BY ENGINEER.
2. ALL STAINLESS STEEL ELEMENTS OF CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FOR THE PRECAST S.A.S SUPPLIER AND SET FOR 60 - 70 INCH/LBS.
3. THE CONNECTOR SHALL BE INSTALLED IN THE S.A.S. WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE CONNECTOR MANUFACTURER.
4. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.
5. ALL COSTS SHALL BE CONSIDERED INCIDENTAL TO THE S.A.S. AND/OR PIPE. THE ENGINEER RESERVES THE RIGHT TO REQUIRE A "CONCRETE ENCASEMENT" CONNECTION AT NO ADDITIONAL EXPENSE IN THE EVENT OF DESIGN CHANGE.
6. FLEXIBLE, WATERTIGHT CONNECTIONS SHALL ALSO BE USED AS REQUIRED FOR STORM SEWER CONNECTIONS.

2004

CITY OF MADISON ENGINEERING DIVISION

FLEXIBLE PIPE TO S.A.S. CONNECTOR

STANDARD DETAIL DRAWING 5.7.31

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

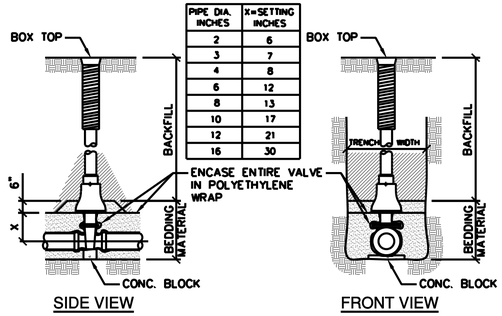
1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

DETAILS - SEWER

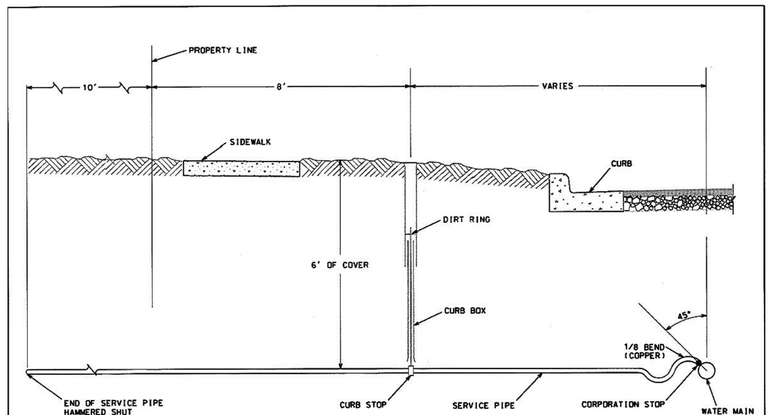
C900.1



PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
10	17
12	21
16	30

STANDARD GATE VALVE BOX SETTING DETAIL

N.T.S.



NOTE:
ON CUL-DE-SACS WITH NO SIDEWALKS, WATER SERVICE PIPE TO END AT PROPERTY LINE.

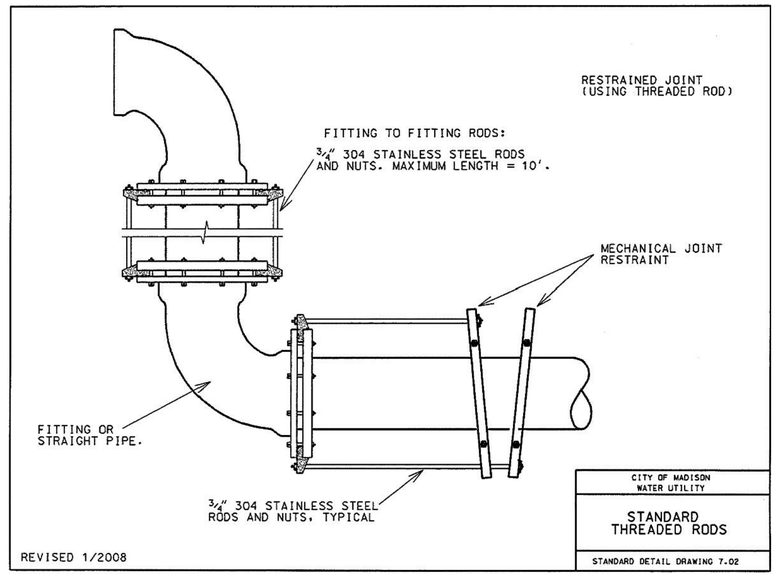
2004

CITY OF MADISON WATER UTILITY

SERVICE INSTALLATION PRIVATE CONTRACT

STANDARD DETAIL DRAWING 7.01

REVISED 1/2009

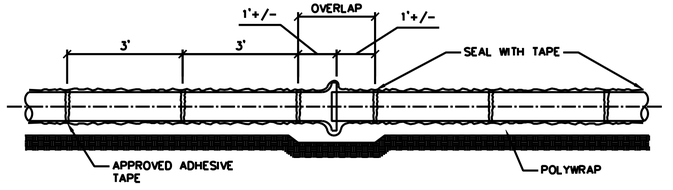


CITY OF MADISON WATER UTILITY

STANDARD THREADED RODS

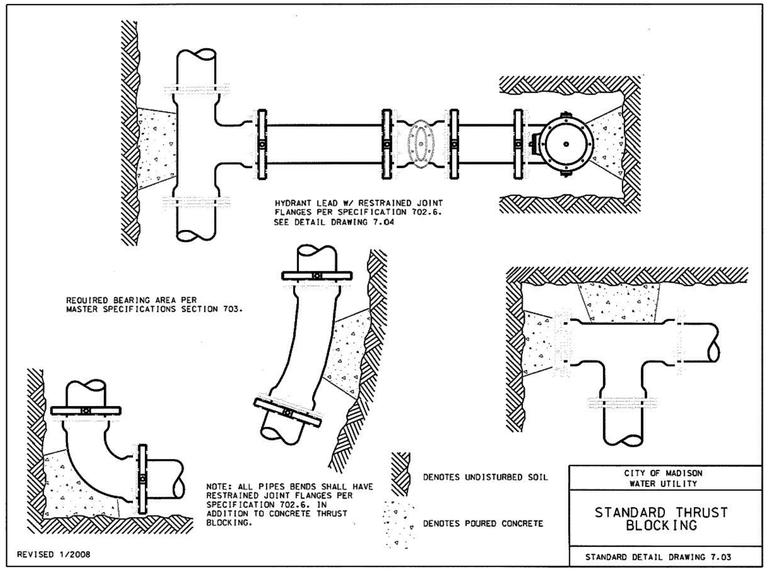
STANDARD DETAIL DRAWING 7.02

REVISED 1/2008



POLYETHYLENE WRAP

N.T.S.

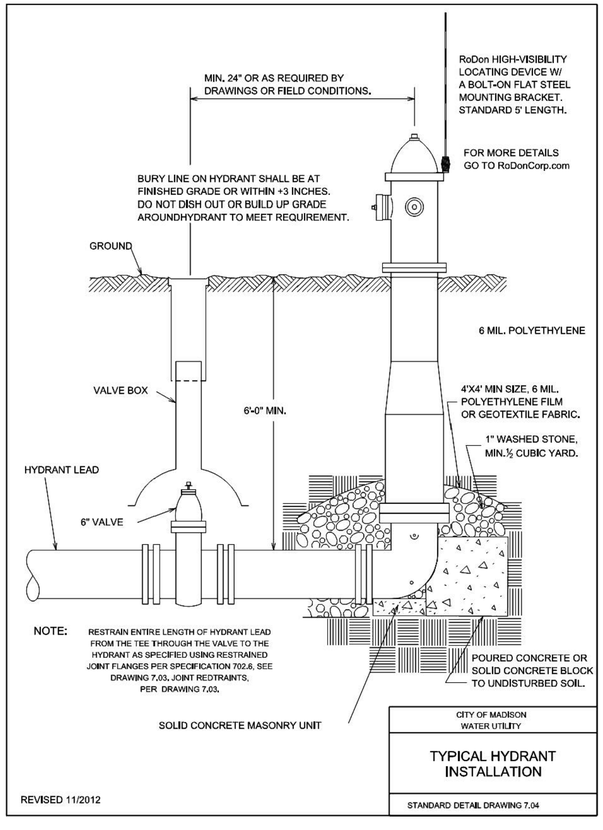


CITY OF MADISON WATER UTILITY

STANDARD THRUST BLOCKING

STANDARD DETAIL DRAWING 7.03

REVISED 1/2008

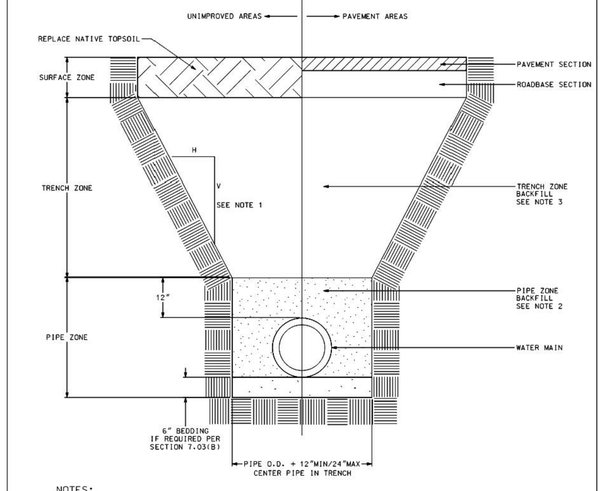


CITY OF MADISON WATER UTILITY

TYPICAL HYDRANT INSTALLATION

STANDARD DETAIL DRAWING 7.04

REVISED 11/2012



NOTES:

1) ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE WISCONSIN ADMINISTRATIVE CODE FOR "TRENCH EXCAVATION, AND TUNNEL CONSTRUCTION" AND ANY ADDITIONAL REQUIREMENTS INCLUDED IN THE CONTRACT DOCUMENTS.

2) BACKFILL OPERATIONS SHALL COMPLY WITH SECTION 703.8 AND SUBSECTION 202.2(B). THE PIPE ZONE SHALL CONSIST OF SELECT FILL SAND, LIMESTONE SCREENINGS, WASHED OR CLEAR STONE, GRAVEL OR CRUSHED STONE.

3) BACKFILL OPERATIONS FOR THE TRENCH ZONE SHALL COMPLY WITH SECTION 703.11.

4) COMPACTION REQUIREMENTS:
PIPE ZONE: COMPACT BEDDING MATERIAL USING A HAND OPERATED MECHANICAL COMPACTOR. FROM 2' OVER PIPE TO 3' BELOW SUBGRADE: MINIMUM OF 90% OF MAX DENSITY.
WITHIN 3' OF BOTTOM OF SUBGRADE: MINIMUM OF 95% OF MAX DENSITY

CITY OF MADISON WATER UTILITY

TYPICAL WATER PIPE TRENCH

STANDARD DETAIL DRAWING 7.11

CREATED: 6/2009

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com
#12408.01

GRÄEF
5126 West Terrace Drive,
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Madison, WI 53718-8346
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REINDAHL SPLASH PAD

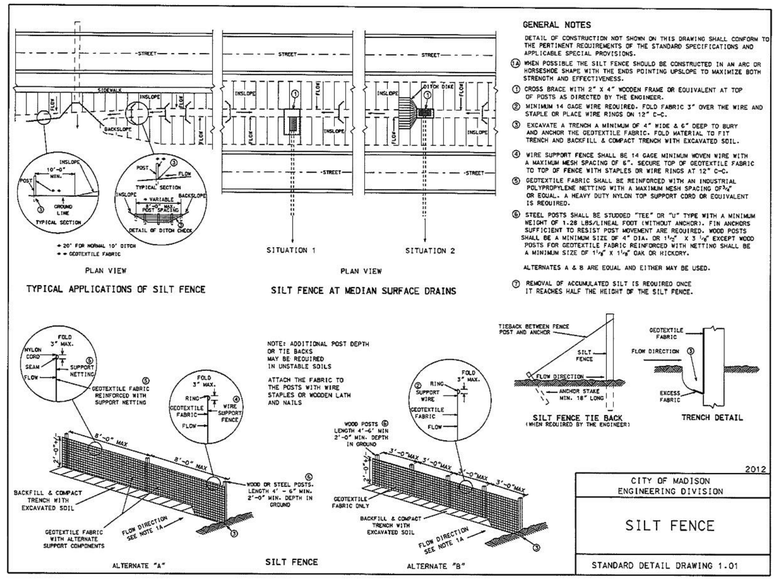
1818 PORTAGE ROAD
MADISON, WI 53704

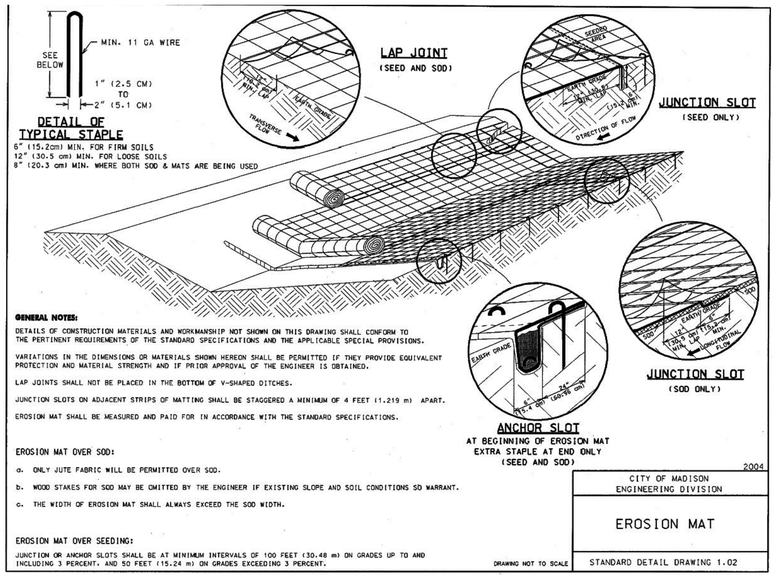
ID	DATE	DESCRIPTION

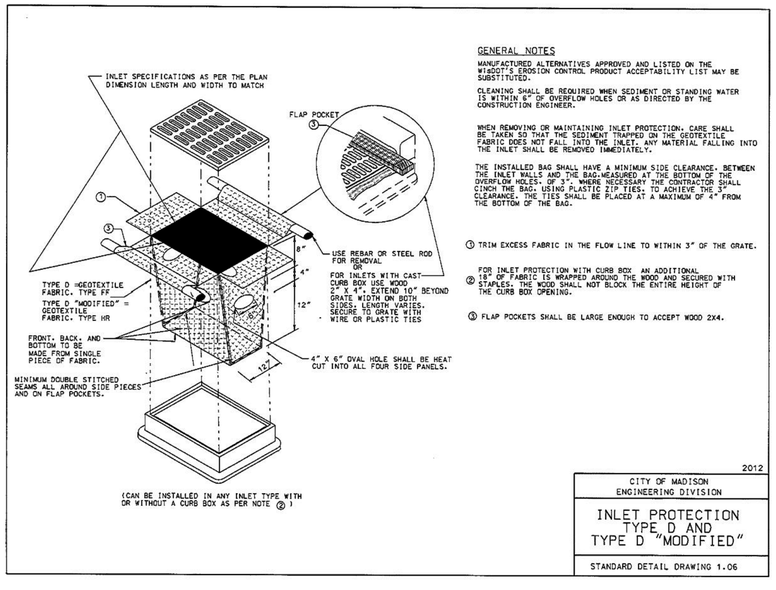
DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

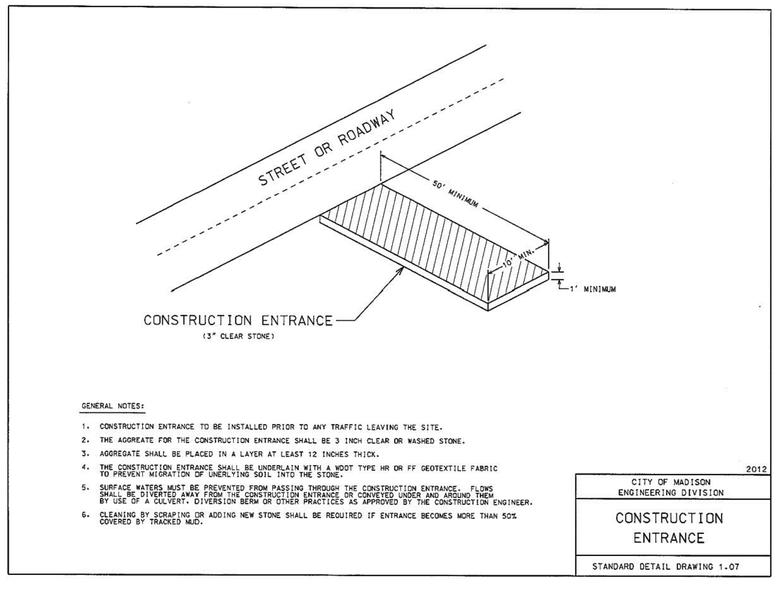
DETAILS - WATER MAIN

C901









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WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
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GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
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REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI 53704

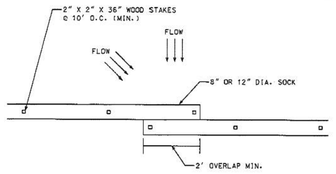
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

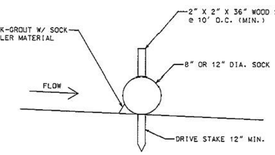
DETAILS

C902

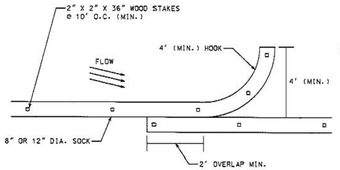
SILT SOCK
(NTS)



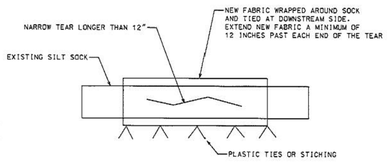
PLAN VIEW - FLOW 45 TO 90 DEG. TO SOCK



SECTION VIEW



PLAN VIEW - FLOW LESS THAN 45 DEG. TO SOCK



REPAIR DETAIL - TEAR GREATER THAN 12 INCHES

GENERAL NOTES:

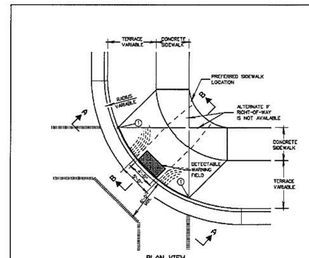
1. SOCK MATERIAL PER STANDARD SPECIFICATIONS. SILT SOCK FILLER SHALL BE COMPOST OR WOOD CHIPS (2" MAX.)
2. WHEN SILT SOCK IS USED ON A PAVED SURFACE CONCRETE BLOCKS SHALL BE USED TO SECURE SILT SOCK IN PLACE OF STAKING
3. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT SOCK WHEN IT HAS REACHED A HEIGHT EQUAL TO HALF OF THE SOCK HEIGHT.
4. SMALL HOLES OR NARROW RIPS LESS THAN 12' LONG MAY BE STICHED CLOSED USING PLASTIC ZIP TIES. LARGER RIPS SHALL BE FIXED PER THE REPAIR DETAIL. HEAVILY DAMAGED SECTIONS SHALL BE REPLACED ENTIRELY. MAINTAIN 2' MINIMUM OVERLAP AT EACH END.
5. 8" OR 12" DIAMETER SOCK AS SPECIFIED IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE CONSTRUCTION ENGINEER.

2012

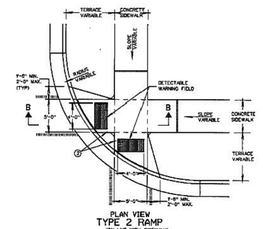
CITY OF MADISON
ENGINEERING DIVISION

SILT SOCK

STANDARD DETAIL DRAWING 1.09



PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

NOTE: MATERIALS AND METHOD OF CONSTRUCTION FOR TRUNCATED DOMES SHALL BE SPECIFIED IN SPECIAL PROVISIONS OR AS REQUIRED BY THE CITY ENGINEER

GENERAL NOTES

TYPE 2-A RAMPS SHALL BE USED IN NEW DEVELOPMENTS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 10:1HV OR FLATTER, WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD".

CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES SHALL BE APPROVED BY THE CITY ENGINEER. THE COLOR OF THE DETECTABLE WARNING FIELD SHALL BE SAFETY YELLOW OR APPROVED EQUAL AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

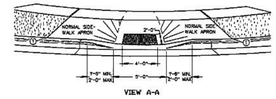
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMED TRANSVERSE TO THE SLOPE OF THE RAMP.

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.

① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② WHEN THIS DISTANCE IS LESS THAN 5'-0" IT MAY BE DIFFICULT TO ACHIEVE A 10:1HV SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 10:1HV SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

LEGEND
- F EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING, WHITE, 6-INCH
- ALTERNATIVE LAYOUT



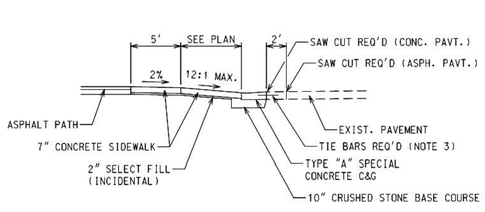
VIEW A-A

2009

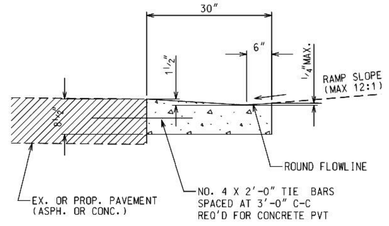
CITY OF MADISON
ENGINEERING DIVISION

STANDARD CURB RAMPS
TYPES 1 AND 2

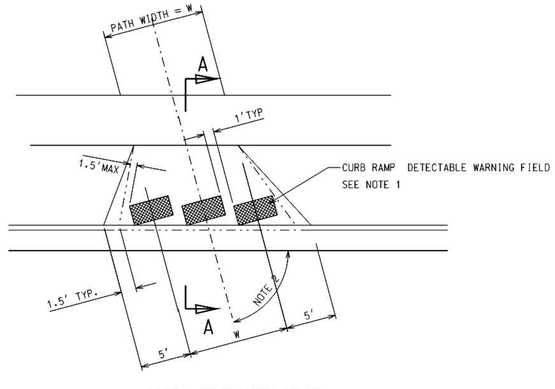
STANDARD DETAIL DRAWING 3.03



BIKE PATH RAMP SECTION A-A



TYPE "A" SPECIAL CURB & GUTTER



BIKE PATH RAMP PLAN

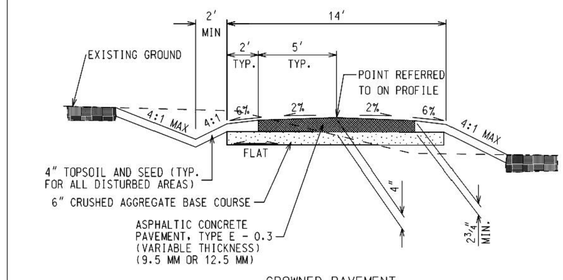
NOTES:
1. CURB RAMP DETECTABLE WARNING FIELDS REQUIRED WHERE PATH RAMP ENTERS A STREET.
2. FOR ANGLES LESS THAN 75° OR GREATER THAN 105° FLARE DIMENSIONS SHALL BE AS SHOWN ON THE PLANS OR SHALL BE REVIEWED BY THE CONSTRUCTION ENGINEER PRIOR TO CONSTRUCTION.
3. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE

2010

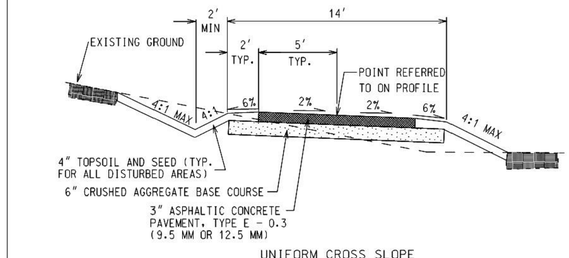
CITY OF MADISON
ENGINEERING DIVISION

BIKE RAMP CURB RAMP DETAIL

STANDARD DETAIL DRAWING 3.14



CROWNED PAVEMENT



UNIFORM CROSS SLOPE

GENERAL NOTES:

1. GRADING SHALL INCLUDE REMOVING VEGETATION AND TOPSOIL. SHAPING AND COMPACTING THE SUBBASE.
2. SUITABLE FILL AS REQUIRED TO OBTAIN A SUITABLE CROSS SECTION SHALL BE PLACED AND COMPACTED IN 6 INCH MAXIMUM LIFTS.
3. ALL DISTURBED AREAS SHALL BE TOPSOILED AND SEEDED.

2007

CITY OF MADISON
ENGINEERING DIVISION

TYPICAL SECTION
BIKE PATH

STANDARD DETAIL DRAWING 4.08

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#12408.01

GRÄEF

5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

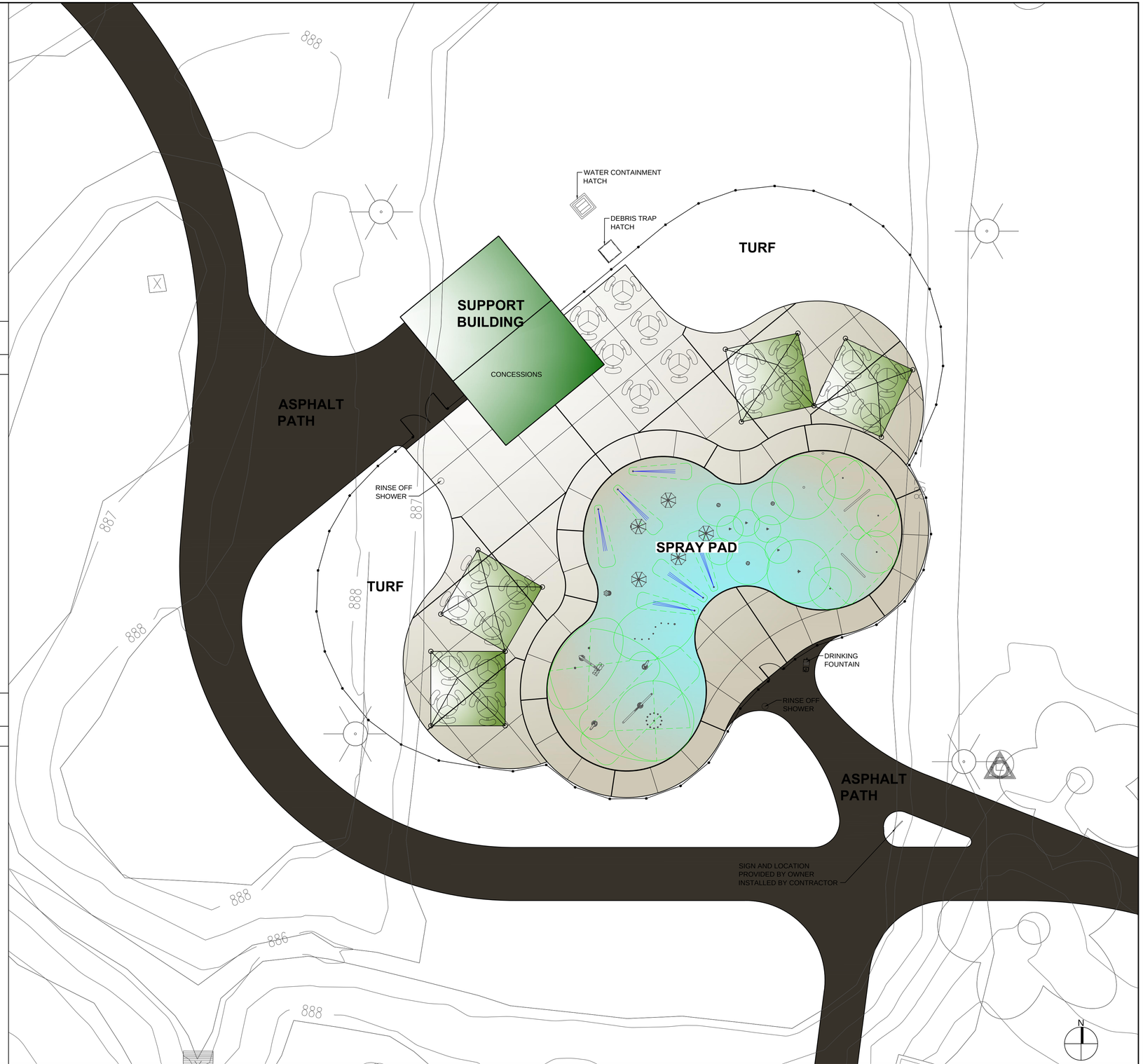
DETAILS

C903

THIS SPACE NOT USED	2
	NONE

THIS SPACE NOT USED	3
	NONE

THIS SPACE NOT USED	4
	NONE



OVERALL SITE PLAN	1
	1" = 10'-0"

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

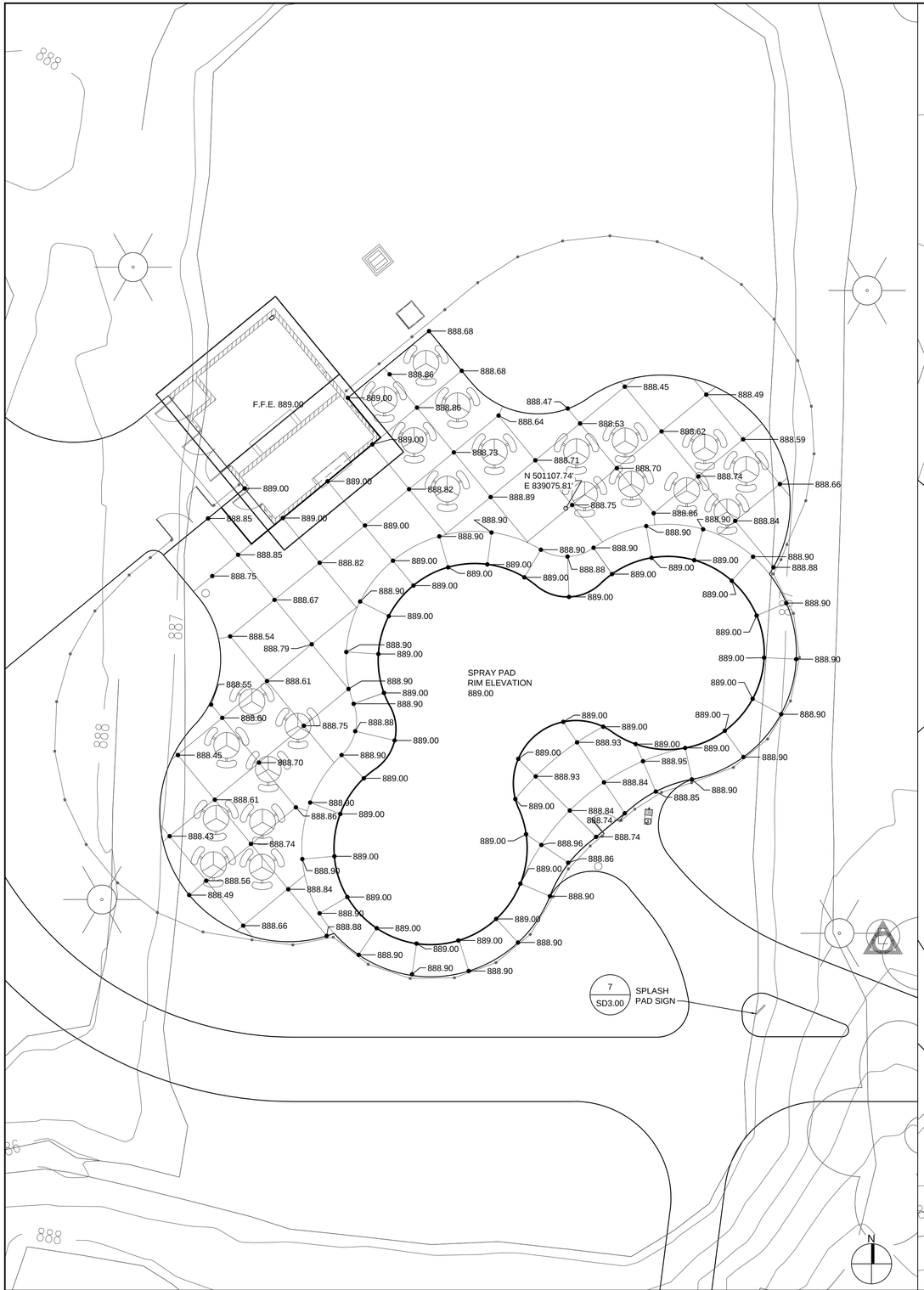
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	---
CHECKED BY	DGM
PHASE	BID DOCUMENTS

OVERALL SITE PLAN

SD1.00

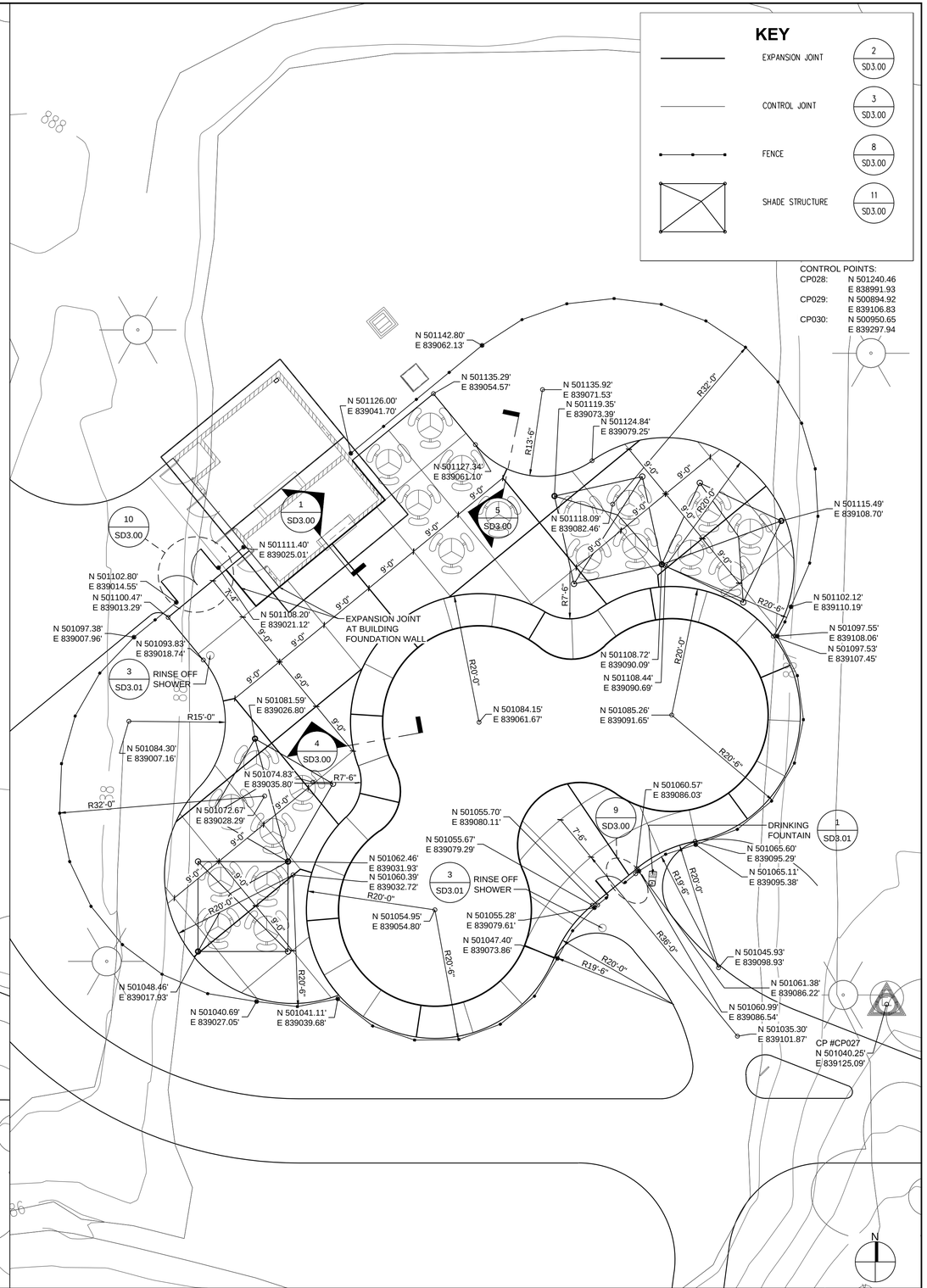
Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 SD100.dwg



GRADING PLAN

2

1" = 10'-0"



5" CONCRETE & FENCE LAYOUT

1

1" = 10'-0"

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

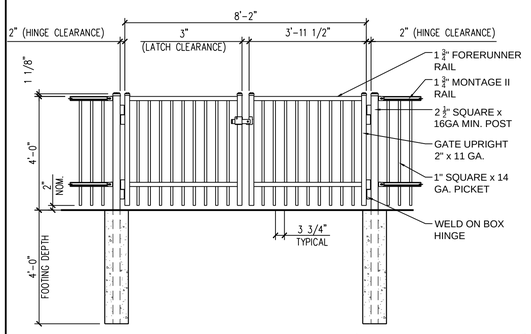
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GRADING PLAN AND 5 INCH CONCRETE LAYOUT

SD2.00

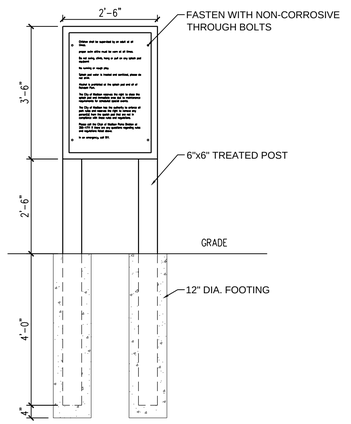
Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd200.dwg



VALUES SHOWN ARE NOMINAL AND NOT TO BE USED FOR INSTALLATION PURPOSES. SEE PRODUCT SPECIFICATION FOR INSTALLATION REQUIREMENTS.

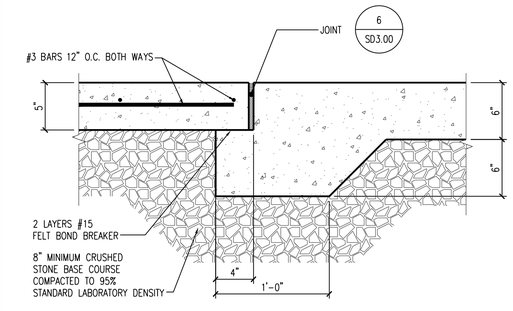
MONTAGE II DOUBLE GATE DETAIL — 10

NONE



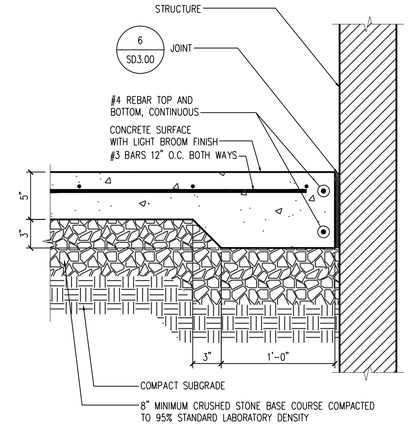
SPLASH PAD RULES SIGN DETAIL — 7

NONE



5" CONCRETE AT SPRAY PAD — 4

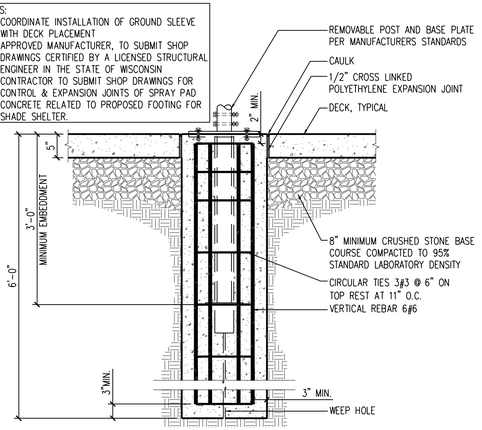
NONE



5" CONCRETE AT STRUCTURE — 1

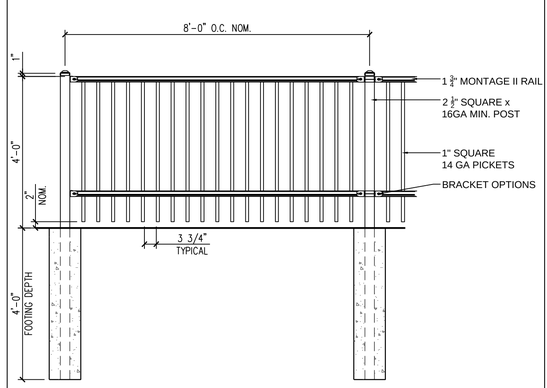
NONE

NOTES:
- COORDINATE INSTALLATION OF GROUND SLEEVE WITH DECK PLACEMENT
- APPROVED MANUFACTURER, TO SUBMIT SHOP DRAWINGS CERTIFIED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF WISCONSIN
- CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CONTROL & EXPANSION JOINTS OF SPRAY PAD CONCRETE RELATED TO PROPOSED FOOTING FOR SHADE SHELTER.



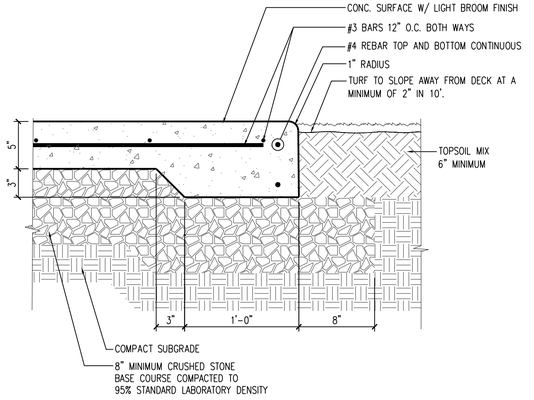
FLUSH MOUNT UMBRELLA GROUND SLEEVE — 11

NONE



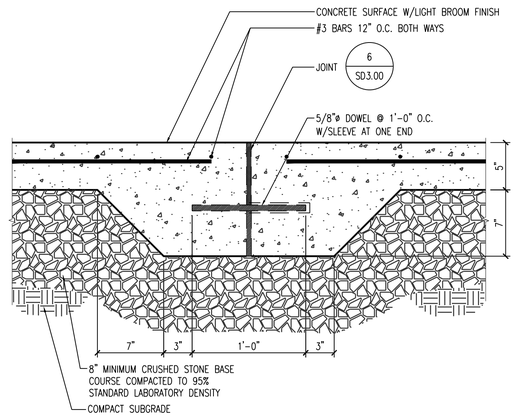
MONTAGE II FENCE DETAIL — 8

NONE



5" CONCRETE AT TURF EDGE — 5

NONE

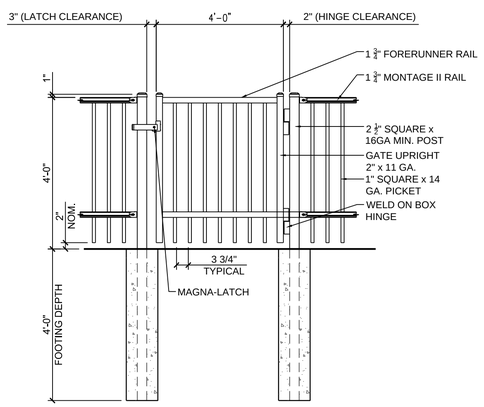


5" CONCRETE EXPANSION JOINT — 2

NONE

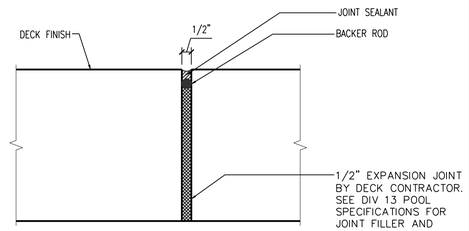
THIS SPACE NOT USED — 12

NONE



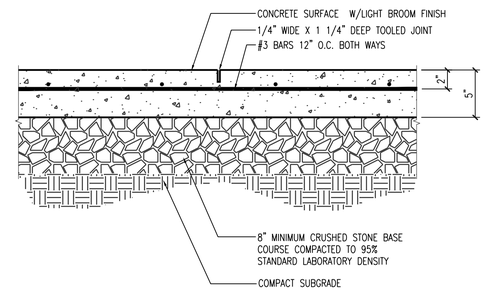
MONTAGE II SINGLE GATE DETAIL — 9

NONE



5" CONCRETE JOINT DETAIL — 6

NONE



NOTE:
CONTRACTOR TO PROVIDE SAMPLE OF FINISH FOR OWNERS APPROVAL

5" CONCRETE CONTROL JOINT — 3

NONE

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

SITE DETAILS

SD3.00

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd300.dwg

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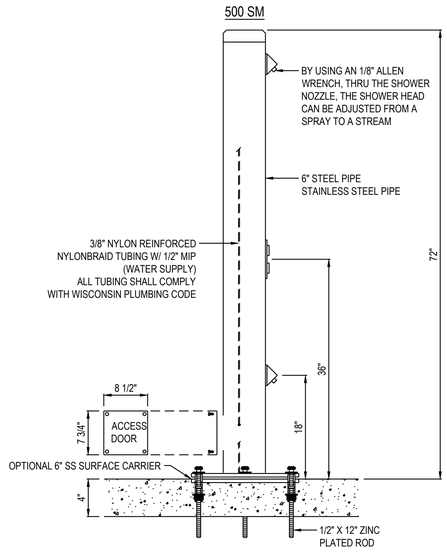


NOTES:
1. DO NOT SCALE DRAWINGS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. PROVIDE STAINLESS STEEL SURFACE CARRIER

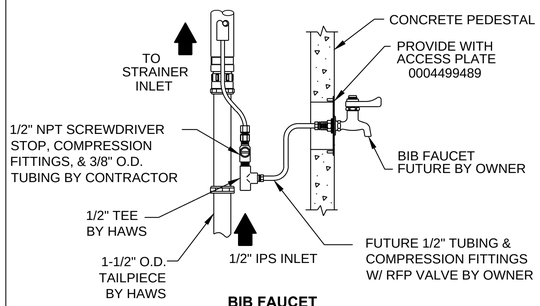
MODEL 500 SM
PROVIDE WITH 6" SS SURFACE CARRIER FOR SURFACE MOUNT (SM)

3354-10.1

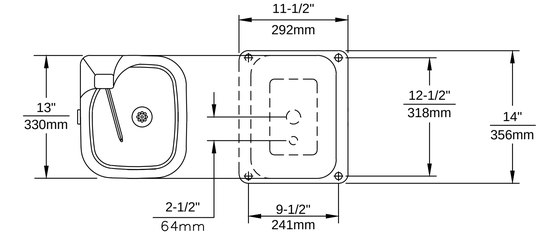
www.CADdetails.com

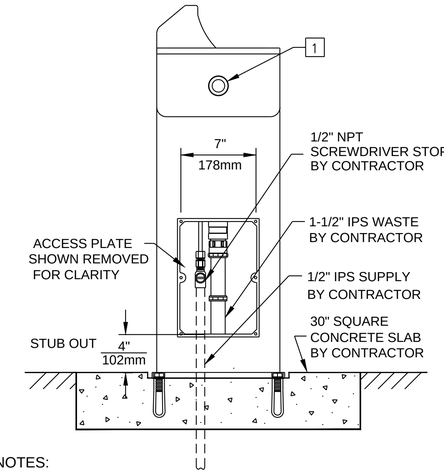
THIS DOCUMENT IS TRUE AND CORRECT AT TIME OF PUBLICATION. CONTINUED PRODUCT IMPROVEMENTS MAKE SPECIFICATIONS AND MEASUREMENTS SUBJECT TO CHANGE WITHOUT NOTICE.

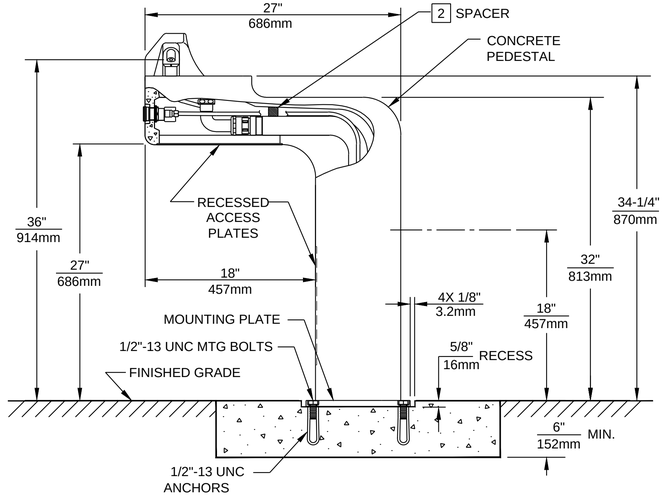
NOTE: OWNER TO PURCHASE, CONTRACTOR TO INSTALL.



BIB FAUCET DETAIL







NOTES:

1 REFER TO 5874/VRK5874 OPERATION AND MAINTENANCE MANUAL FOR PUSH BUTTON AND VALVE INSTALLATION/MAINTENANCE INSTRUCTIONS.

2 SPACER IS GLUED TO WALL OF PEDESTAL, BUT MAY BE KNOCKED OFF DURING WASTE ARM ASSEMBLY REMOVAL/REPAIR. ENSURE THAT SPACER IS REPLACED TO KEEP HOSE AND WASTE ARM ALIGNED PROPERLY.

Haws®

1455 KLEPPE LANE
SPARKS, NEVADA 89431
(775) 359-4712 FAX (755) 359-7424
E-MAIL: HAWS@HAWSCO.COM
WEBSITE: WWW.HAWSCO.COM

ECN NO.	REVISED PER ECN: 4646	BY: HM
DRAWN: STH	DATE: 06/95	CHK'D.
APPROVED:	DATE:	

MODEL(S): 3177

PART NUMBER 0002077324.D
DRAWING NO. 12018A00 REV 14
SCALE: 1:13 DRAWING TYPE: INSTALLATION SIZE: A SHEET 1 OF 1

SHOWER TOWER	**3**	**DRINKING FOUNTAIN - BY OWNER**	**1**
	NONE		NONE
THIS SPACE NOT USED	**4**	**THIS SPACE NOT USED**	**2**
	NONE		NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

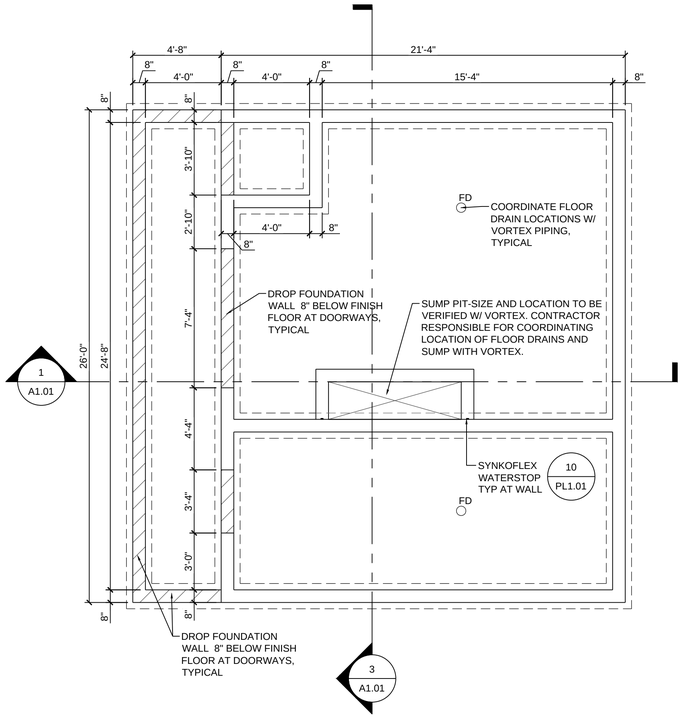
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

SITE DETAILS

SD3.01

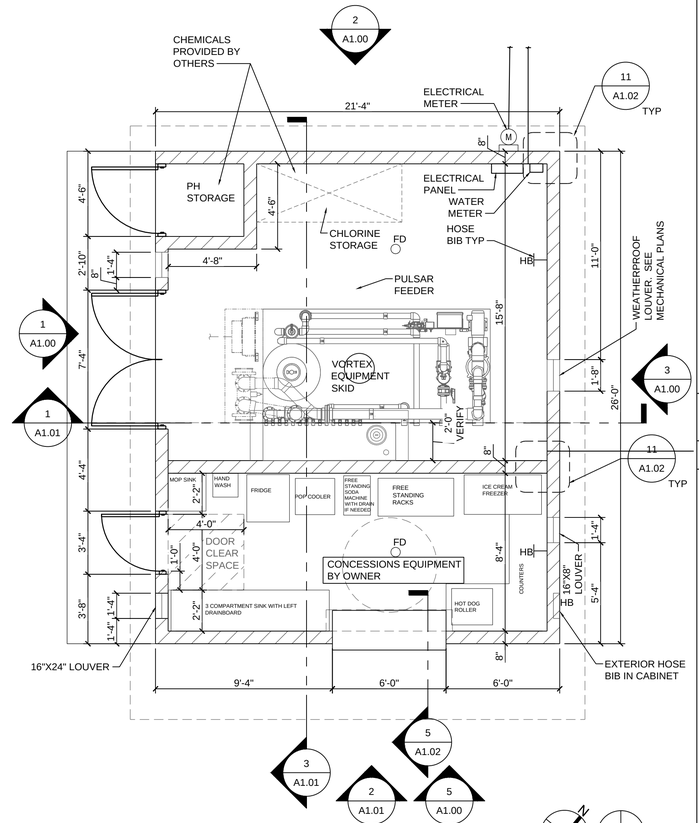
Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd301.dwg



TRUE PLAN

MECHANICAL BUILDING FOUNDATION PLAN | 6

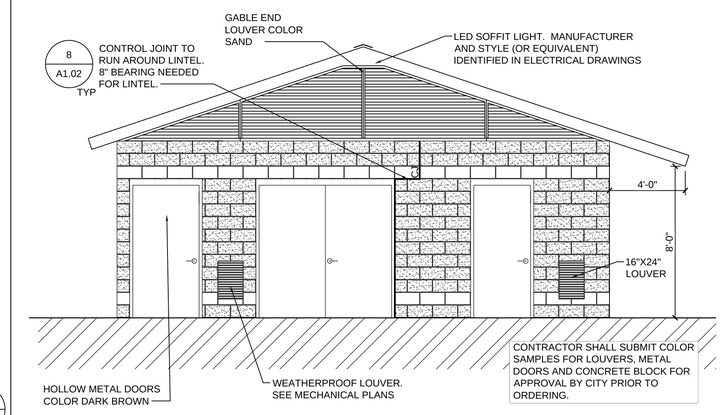
1/4" = 1'-0"



TRUE PLAN

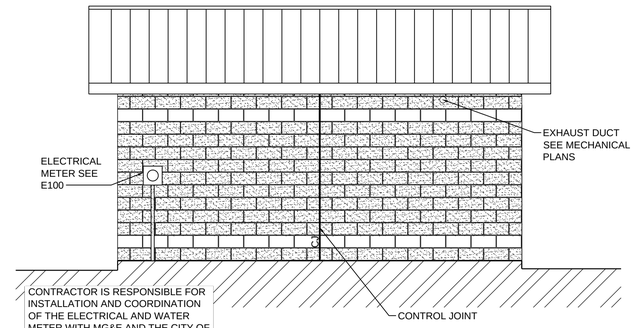
MECHANICAL BUILDING FLOOR PLAN | 4

1/4" = 1'-0"



SOUTH ELEVATION | 1

1/4" = 1'-0"



WEST ELEVATION | 2

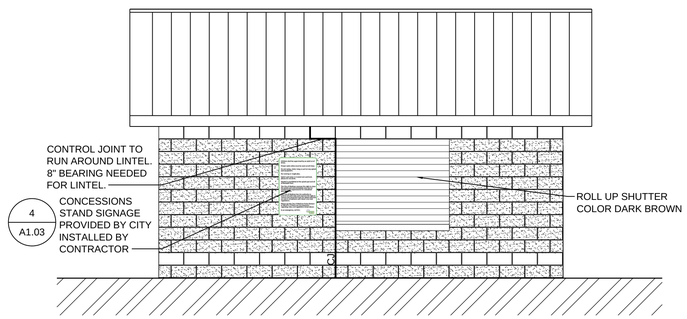
1/4" = 1'-0"

GENERAL NOTES

1	ALL DIMENSIONING IS TO CMU OR CONCRETE
2	DO NOT SCALE DRAWINGS. ID DIMENSION ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
3	THE CONTRACT DOCUMENTS CONSIST OF THE SPECIFICATION MANUAL AND DRAWINGS WHICH ARE INTENDED TO BE COMPLEMENTARY AND TO BE USED IN CONJUNCTION WITH ONE ANOTHER.
4	IF DISCREPANCIES OCCUR BETWEEN THE SPECIFICATION MANUAL AND THE DRAWINGS, NOTIFY THE ARCHITECT FOR A RESOLUTION
5	ALL EXTERIOR WALL OPENINGS BY ALL TRADES SHALL BE FLASHED AND CAULKED BY THE GC.
6	OPENINGS FOR PLUMBING, VENTILATION AND ELECTRICAL WORK IN WALLS, FLOORS, CEILING AND ROOF SHALL BE PROVIDED BY THE GC LOCATION AND SIZE SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS.
7	SLOPE FLOOR SLAB TO FLOOR DRAINS. SEE FOUNDATION PLAN AND COORDINATE WITH PLUMBING. (MAX FLOOR SLOPE 1/4" PER FT.)
8	CONTRACTOR TO COORDINATE ARCHITECTURAL, POOL PLUMBING, MECHANICAL AND PLUMBING, PLANS FOR DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, ECT. NOTIFY ARCHITECT OF ANY VARIANCE BEFORE COMMENCING CONTRUCTION

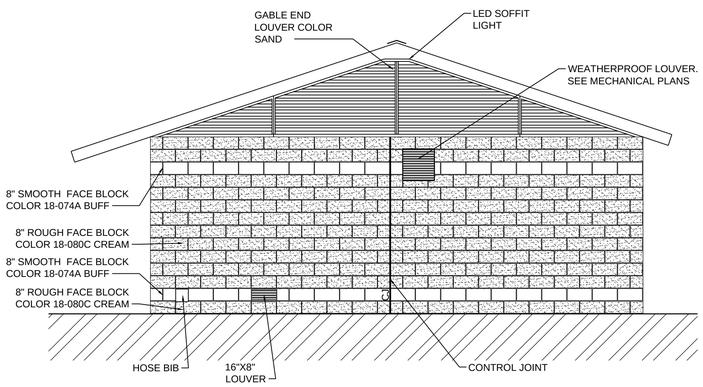
GENERAL NOTES | 7

1/4" = 1'-0"



EAST ELEVATION | 5

1/4" = 1'-0"



NORTH ELEVATION | 3

1/4" = 1'-0"

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

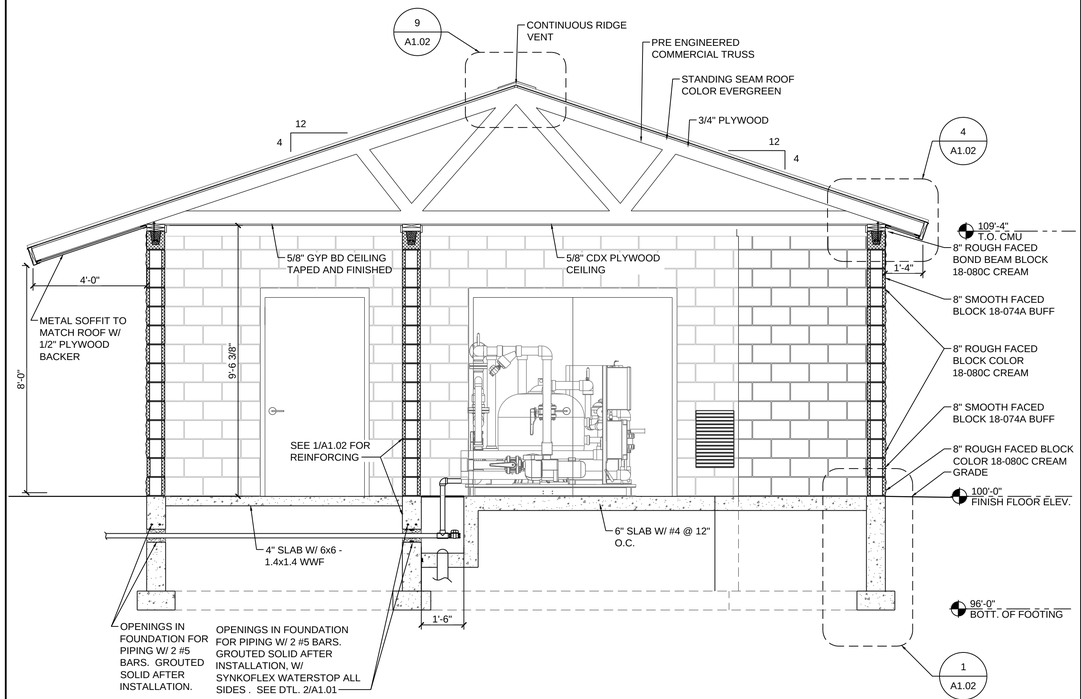
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

BUILDING PLAN AND ELEVATIONS

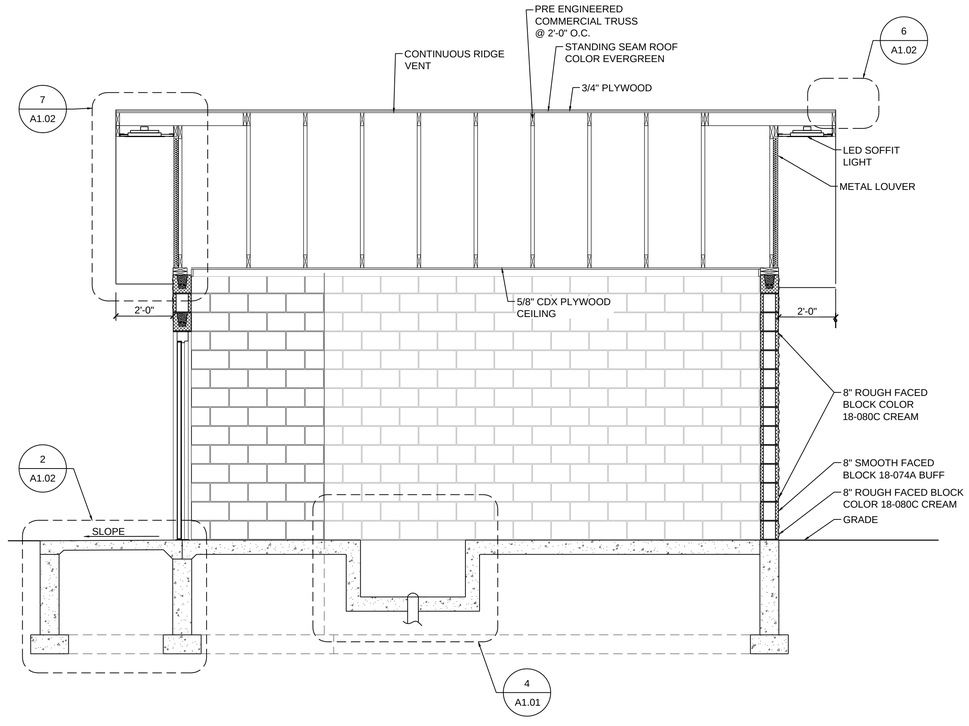
A1.00

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A100.dwg



BUILDING SECTION — 3

3/8" = 1'-0"

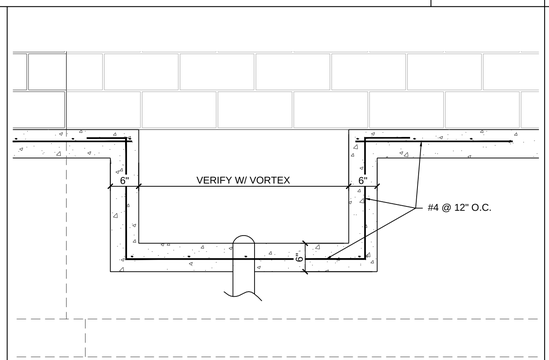


BUILDING SECTION — 1

3/8" = 1'-0"

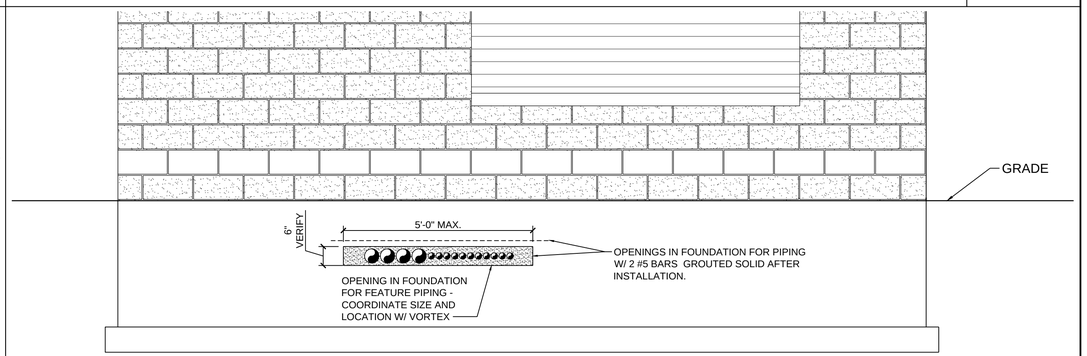
THIS SPACE NOT USED — 5

NONE



SUMP PIT — 4

3/4" = 1'-0"



EAST FOUNDATION WALL DETAIL — 2

1/2" = 1'-0"

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

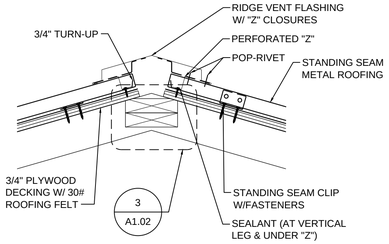
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

BUILDING SECTIONS AND DETAILS

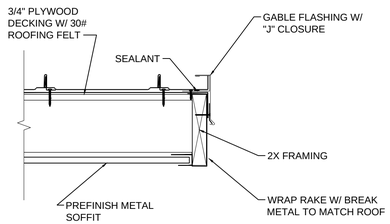
A1.01

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A101.dwg



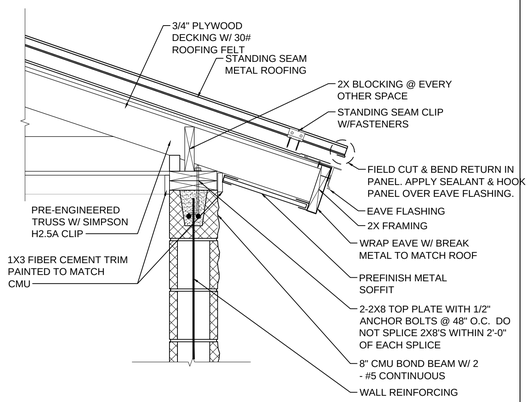
RIDGE DETAIL — 9

NONE



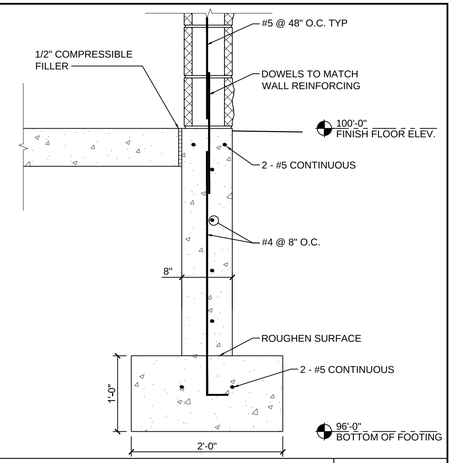
GABLE DETAIL — 6

NONE



EAVE DETAIL — 4

NONE



FOUNDATION DETAIL — 1

NONE

CMU AT WALL INTERSECTION — 10

NONE

LOUVER DETAIL — 7

NONE

ROLLING SHUTTER — 5

NONE

STOOP DETAIL — 2

NONE

CMU AT WALL CORNER — 11

NONE

CMU CONTROL JOINT — 8

NONE

RIDGE DETAIL — 3

NONE

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MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

BUILDING DETAILS

A1.02

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A102.dwg

Signage attached to building next to concessions window, 24"x36" sign.

Children shall be supervised by an adult at all times.

Proper swim attire must be worn at all times.

Do not swing, climb, hang or pull on any splash pad equipment.

No running or rough play.

Splash pad water is treated and sanitized, please do not drink.

Alcohol is prohibited at the splash pad and all of Reindahl Park.

The City of Madison reserves the right to close the splash pad and immediate area due to maintenance requirements for scheduled special events.

The City of Madison has the authority to enforce all park rules and reserves the right to remove any person(s) from the splash pad that are not in compliance with these rules and regulations.

Please call the City of Madison Parks Division at 266-4711 if there are any questions regarding rules and regulations listed above.

In an emergency, call 911.

play MADISON PARKS

CONCESSIONS STAND SIGNAGE — 4

NONE

THIS SPACE NOT USED — 5

NONE

THIS SPACE NOT USED — 6

NONE

DESIGN SPECIFICATIONS

- DESIGN IS IN ACCORDANCE WITH THE STATE OF WISCONSIN AND THE 2009 INTERNATIONAL BUILDING CODE.
- MINIMUM 28 DAY CONCRETE CYLINDER STRENGTH SHALL BE:
  - FOOTINGS 4,000 PSI
  - SLABS ON GROUND 4,000 PSI
  - FOUNDATION WALLS 4,000 PSI
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.M
- CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 TYPE II NORMAL WEIGHT UNITS.
- MORTAR SHALL CONFORM TO ASTM C270 TYPE S.
- MASONRY GROUT SHALL CONFORM TO ASTM C476. MINIMUM COMPRESSIVE STRENGTH SHALL BE F'C = 3000 PSI.
- MINIMUM COMPRESSIVE STRENGTH OF UNREINFORCED CONCRETE MASONRY CONSTRUCTION SHALL BE F'M = 1500 PSI.
- MINIMUM COMPRESSIVE STRENGTH OF REINFORCED CONCRETE MASONRY CONSTRUCTION SHALL BE F'M = 1500 PSI.
- STRUCTURAL STEEL W-SHAPES SHALL CONFORM TO ASTM A992 GRADE 50.
- STRUCTURAL STEEL PLATES, ANGLES, CHANNELS, AND OTHER ROLLED MEMBERS SHALL CONFORM TO ASTM A36.
- RECTANGULAR OR SQUARE HSS MEMBERS SHALL CONFORM TO ASTM A500 GRADE B.
- ROUND HSS MEMBERS SHALL CONFORM TO ASTM A500 GRADE B.
- STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B.
- ASSUMED BEARING CAPACITY FOR SPREAD FOOTINGS IS 1,500 PSF.
- DESIGN LOADS:FLOOR LIVE LOADS (IBC 2009)
- MECHANICAL ROOMS 150 PSF
  MINIMUM ROOF LIVE LOAD 20 PSF

  ROOF SNOW LOAD (ASCE 7-05)
  OCCUPANCY CATEGORY II
  IMPORTANCE FACTOR IS = 1.0
  GROUND SNOW LOAD PG = 30 PSF
  SLOPED ROOF SNOW LOAD PS = 24 PSF
  EXPOSURE FACTOR CE = 1.0
  THERMAL FACTOR CT = 1.2

  WIND LOAD (ASCE 7-05) OCCUPANCY CATEGORY
  IMPORTANCE FACTOR IW = 1.0
  BASIC WIND SPEED V = 90 MPH
  EXPOSURE C
  INTERNAL PRESSURE COEFFICIENT GCPI = +/- 0.18

  SEISMIC LOAD (IBC 2009) OCCUPANCY CATEGORY
  IMPORTANCE FACTOR IE = SPECTRAL RESPONSE ACCELERATIONS SS = .084 G
  S1 = .046 G
  SPECTRAL RESPONSE COEFFICIENTS SDS = .09 G
  SD1 = .073 G
  SEISMIC RESPONSE COEFFICIENT CS = .01
  RESPONSE MODIFICATION FACTOR R = 2 SOIL SITE CLASS D
  SEISMIC DESIGN CATEGORY B
  BASIC SEISMIC FORCE RESISTING SYSTEM ORDINARY MASONRY SHEAR WALLS
  ANALYSIS PROCEDURE EQUIVALENT FORCE PROCEDURE
  DESIGN BASE SHEAR 2.4 KIPS

- RESISTANCE TO LATERAL LOADS ON STRUCTURE IS PROVIDED BY MASONRY SHEAR WALLS AND AND ROOF DIAPHRAGMS. CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY BRACING UNTIL ALL LATERAL SUPPORT SYSTEMS ARE IN PLACE AND FUNCTIONAL.
- ALL STRUCTURAL FRAMING AND CONNECTIONS HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION. ANY INVESTIGATION OF THE STRUCTURAL FRAMING AND CONNECTIONS FOR ADEQUACY DURING THE STEEL ERECTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND ALL JOB SITE SAFETY.

DESIGN NOTES — 2

NONE

THIS SPACE NOT USED — 3

NONE

GENERAL NOTES — 1

NONE

GENERAL NOTES

EARTHWORK

- FOOTINGS SHALL BE CAST ON UNDISTURBED SUBSOIL. IF DESIGN CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS SHOWN, FOOTINGS MUST BE LOWERED. CONSULT ARCHITECT BEFORE PROCEEDING.
- NO HOLES, TRENCHES OR DISTURBANCES OF THE SOIL SHALL BE ALLOWED WITHIN THE VOLUME DESCRIBED BY 45 DEGREE LINES SLOPING FROM THE BOTTOM EDGE OF THE FOOTING. IF SUCH ARE REQUIRED, FOOTINGS MUST BE LOWERED.
- BACKFILL EVENLY ON EACH SIDE OF FOUNDATION WALLS AND RETAINING WALLS.
- TOPSOIL AND FILL BELOW SLABS ON GROUND SHALL BE REMOVED. AGGREGATE BASE COURSE UNDER SLABS ON GROUND SHALL BE BANKRUN GRAVEL COMPACTED TO 6-INCH LAYERS.
- BACKFILL AGAINST INTERIOR FOUNDATION WALLS SHALL BE BANKRUN GRAVEL COMPACTED TO MAXIMUM 6-INCH LAYERS.
- BACKFILL AGAINST EXTERIOR FOUNDATION WALLS SHALL BE BANKRUN GRAVEL COMPACTED TO MAXIMUM 6-INCH LAYERS.
- PROVIDE MINIMUM 24 INCHES OF FREE DRAINING AGGREGATE OVER ALL DRAIN TILES AND 4 INCHES BELOW.

CONCRETE

- FORMWORK SHALL BE DESIGNED IN ACCORDANCE WITH THE ACI "MANUAL OF CONCRETE PRACTICE", LATEST EDITION.
- REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH THE ACI "MANUAL OF CONCRETE PRACTICE", LATEST EDITION, UNLESS OTHERWISE NOTED
- LAP ALL WALL BARS 30 DIAMETERS UNLESS OTHERWISE DETAILED. LAP WELDED WIRE MESS 6 INCHES.
- PROVIDE COLUMN AND WALL DOWELS OF THE SAME SIZE AND NUMBER AS THE RESPECTIVE COLUMN AND WALL REINFORCING UNLESS OTHERWISE DETAILED.
- PROVIDE TWO #4 BARS AS STIRRUP CARRY BARS WHERE NO TOP STEEL IS AVAILABLE TO HOLD STIRRUPS.
- CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318-08.
- SLABS ON GRADE SHALL BE CAST ALLOWING A SUFFICIENT NUMBER OF JOINTS TO ADEQUATELY CONTROL SHRINKAGE CRACKING. SAWCUTTING SHALL BE DONE AS SOON AS SAWCUT WILL NOT RAVEL CONCRETE OR WITHIN 24 HOURS MAXIMUM OF INITIAL POURING OPERATION. MAXIMUM SIZE OF PANELS SHALL BE 15 FEET BY 15 FEET. GENERALLY, JOINTS SHALL OCCUR ON COLUMN CENTERLINES.
- ALLOW AT LEAST 24 HOURS BEFORE POURING ADJACENT WALL SECTIONS BETWEEN CONSTRUCTION JOINTS. MAXIMUM LENGTH OF POUR TO BE 40 FEET, UNLESS CRACK INDUCERS ARE USED AS DETAILED ON THE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE ARCHITECT AT LEAST 24 HOURS PRIOR TO PLACING CONCRETE.
- DO NOT PLACE OR CUT HOLES IN CONCRETE SLABS, BEAMS, WALLS OR COLUMNS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- EXTERIOR EXPOSED CONCRETE SHALL BE AIR-ENTRAINED. AIR CONTENT SHALL BE 6 PERCENT (+/-1 1/2 PERCENT).
- PIPES AND CONDUITS EMBEDDED IN OR PASSING THROUGH STRUCTURAL MEMBERS MUST BE APPROVED BY THE STRUCTURAL ENGINEER. PIPE AND CONDUITS EMBEDDED IN CONCRETE SHALL NOT BE LARGER THAN 2 INCHES IN OUTSIDE DIAMETER AT THEIR WIDEST POINT OR FITTING OR 1/3 OF THE THICKNESS OF THE SLAB, BEAM OR WALL.
- ELECTRICAL CONDUIT OR PIPES EMBEDDED IN OR PASSING THROUGH SLABS, BEAMS OR WALLS SHALL BE LOCATED AND PLACED SO THAT:
  1. THEY ARE NOT CLOSER THAN THREE DIAMETERS ON CENTER.
  2. THE CONCRETE COVER IS NOT LESS THAN 2 INCHES.
  3. THEY RUN BETWEEN REINFORCING AND DO NOT DISPLACE IT IN ANY MANNER.
- ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE.
- CHAMFER ALL EXPOSED CONCRETE CORNERS.
- CONCRETE SHALL BE TESTED BY THE CONTRACTOR.
- PROPER CURING PROCEDURES SHALL BE USED FOR SLAB ON GRADE TO PREVENT CURLING.
- CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE MIXES.

CONCRETE MASONRY

- PRODUCTION AND CONSTRUCTION OF CONCRETE MASONRY SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES", ACI 530-08, AND THE NCMA "TEK MANUAL FOR CONCRETE MASONRY DESIGN AND CONSTRUCTION", LATEST EDITION.
- COLD WEATHER CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE IMIAC "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY AND CONSTRUCTION", LATEST EDITION.
- CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
- MASONRY WALLS SHALL BE ADEQUATELY BRACED TO RESIST WIND FORCES UNTIL PERMANENT DESIGN SUPPORTS ARE IN PLACE AND FUNCTIONAL. BRACING SHALL BE DESIGNED BY THE CONTRACTOR.
- PROVIDE DOWELS INTO FOUNDATION THE SAME SIZE AND NUMBER AS WALL REINFORCING.
- LAP REINFORCING BARS 48 DIAMETERS.
- CONCRETE MASONRY WALLS SHALL BE REINFORCED AT EVERY OTHER BED JOINT WITH 3/16-INCH TRUSS TYPE JOINT REINFORCEMENT.
- VERTICAL BARS SHOWN ON THE DESIGN DRAWINGS SHALL BE PLACED IN A CONTINUOUS UNOBSTRUCTED CELL OF NOT LESS THAN 3 INCHES BY 4 INCHES.
- ALL BOND BEAMS AND PILASTERS SHALL BE REINFORCED AS SHOWN ON THE DESIGN DRAWINGS AND FILLED WITH GROUT.
- ALL DOOR AND WINDOW JAMBS SHALL BE GROUTED SOLID 8 INCHES WIDE UNLESS SHOWN OTHERWISE. PROVIDE 1-#5 VERTICAL FULL HEIGHT ON EACH SIDE OF OPENING. OPENINGS WITH CONTROL JOINTS AT LINTEL SHALL LOCATE REINFORCING OUTSIDE OF CONTROL JOINT. GROUT SOLID FULL WIDTH OF JAMB TO INCLUDE REINFORCING.
- WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW BEAM REACTIONS SHALL BE 16 INCHES DEEP BY 32 INCHES LONG.
- WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW LINTEL REACTIONS SHALL BE 16 INCHES DEEP BY 16 INCHES LONG.

WOOD FRAMING

- ERECTION OF ALL WOOD FRAMING SHALL CONFORM TO THE NATIONAL FOREST PRODUCTS ASSOCIATION DESIGN SPECIFICATIONS, AMERICAN PLYWOOD ASSOCIATION, AND THE STATE OF WISCONSIN BUILDING CODE, LATEST EDITIONS.
- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ARCHITECT.
- ALL STRUCTURAL SYSTEMS RELATING TO WOOD FRAMING WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.
- LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN SPECIFICATIONS". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

- ROOF DECK SHALL BE 3/4-INCH APA RATED SHEATHING, EXPOSURE 1. NAILING OF WALL SHEATHING AND SOFFIT SHEATHING SHALL BE 8D AT 6 INCHES ON CENTER AT PANEL EDGES AND 8D AT 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS.
- WALL AND SOFFIT SHEATHING SHALL BE 1/2-INCH APA RATED SHEATHING, EXPOSURE 2. NAILING OF WALL SHEATING AND SOFFIT SHEATING SHALL BE 8D AT 6 INCHES ON CENTER AT PANEL EDGES AND 8D AT 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS.
- INSTALL ALL SHEATHING WITH THE LONG DIMENSIONS OF THE PANEL ACROSS SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS. STAGGER PANEL END JOINTS. ALLOW 1/8-INCH SPACING AT PANEL ENDS AND EDGES UNLESS OTHERWISE RECOMMENDED BY THE SHEATHING MANUFACTURER.
- ALL NAILING SHALL BE CAREFULLY DRIVEN AND NOT OVERDRIVEN. THE USE OF STAPLES IS PROHIBITED.
- WALL AND ROOF SHEATHING NAILS SHALL BE HOT-DIPPED GALVANIZED.
- NAILING OF WOOD FRAMING MEMBERS SHALL CONFORM TO THE MINIMUM NAILING SCHEDULE PER TABLE 2304.9.1 OF THE IBC.
- ALL FRAMING EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE-TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION SPECIFICATIONS. WHERE POSSIBLE, ALL CUTS AND HOLES SHOULD BE COMPLETED BEFORE TREATMENT. CUTS AND HOLES DUE TO THE ON-SITE FABRICATION SHALL BE BRUSHED WITH 2 COATS OF COPPER NAPHTHENATE SOLUTION CONTAINING A MINIMUM OF 2% METALLIC COPPER IN SOLUTION (PER AWPA STANDARD M4).
- PREFABRICATED METAL JOIST HANGERS, HURRICANE CLIPS, HOLD-DOWN ANCHORS, AND OTHER ACCESSORIES SHALL BE AS MANUFACTURED BY "SIMPSON STRONG-TIE COMPANY" OR APPROVED EQUAL. INSTALL ALL ACCESSORIES PER THE MANUFACTURER'S REQUIREMENTS. ALL STEEL SHALL HAVE A MINIMUM THICKNESS OF 0.04 INCHES (PER ASTM A653) AND BE GALVANIZED (G60 COATING).

WOOD TRUSSES

- WOOD PLATE CONNECTED TRUSSES SHALL BE DESIGNED, MANUFACTURED, AND ERECTED IN ACCORDANCE WITH THE STATE OF WISCONSIN BUILDING CODE AND THE TRUSS PLATE INSTITUTE.
- SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL TO THE ARCHITECT. THE ARCHITECT'S REVIEW WILL BE BASED ON THE CONTRACT DOCUMENTS. THE ARCHITECT'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK, AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLEY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.
- TRUSS MANUFACTURER SHALL PROVIDE ALL TRUSS-TO-TRUSS CONNECTIONS.
- ALL ROOF TRUSSES SHALL BE SECURED TO THE TOP PLATES WITH SIMPSON TYPE H2.5A UPLIFT CONNECTORS PROVIDED BY THE TRUSS SUPPLIER.
- CONTRACTOR SHALL PROVIDE AND ERECT ALL BRACING, BRIDGING, AND BLOCKING REQUIRED BY THE MANUFACTURER AND THE TRUSS PLATE INSTITUTE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING OF TRUSSES UNTIL PERMANENT BRACING IS IN PLACE.
- DOUBLE 2 X 4 CONTINUOUS BLOCKING SHALL BE PROVIDED AT THE PEAK OF THE RIDGE.
- WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE FOLLOWING LOADS:
  - TOP CHORD LOADING
    LIVE LOAD - 30 PSF (ON THE HORIZOTAL PROJECTION)
    DEAD LOAD - 15 PSF (ON THE SURFACE AREA)
    - ADDITIONAL 5 PSF AT TRUSSES SUPPORTING INFILL FRAMING AT EXTENSIONS OF ADJOINING ROOFS
  - BOTTOM CHORD LOADING
    LIVE LOAD = 300# LOADING AT ANY LOCATION
    DEAD LOAD = 20 PSF
  - WIND LOADING CASE AT TRUSSES SUPPORTING INFILL FRAMING AT ADJOINING
  - ROOFS. SEE "DESIGN SPECIFICATIONS" FOR WIND LOADING CRITERIA. NET UPLIFT=30 PSF

-THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SAFE ERECTION AND PERFORMANCE OF THE TRUSSES, THE GUIDELINES SET FORTH BY THE TRUSS PLACE INSTITUTE PUBLICATION "HIB-91 COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES" SHALL BE A MINIMUM REQUIREMENT.

- TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED OR OTHERWISE ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE TRUSS MANUFACTURER.

MISCELLANEOUS

- DIMENSIONS OF EXISTING CONSTRUCTION OR CONSTRUCTION IN PROGRESS SHALL BE VERIFIED AND COORDINATED PRIOR TO FABRICATION OF STRUCTURAL COMPONENTS.
- VERIFY AND COORDINATE, WITH ALL CONTRACTORS, THE LOCATION OF ALL ARCHITECTURAL AND MECHANICAL APPURTENANCES AND OPENINGS.
- EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ.
- ADHESIVE ANCHORS SHALL BE HILTI HIT HY150.
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS PRIOR TO FABRICATION: CONCRETE REINFORCING AND WOOD TRUSS

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WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
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Voice: 920.887.7375
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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GENERAL NOTES AND DETAILS

A1.03

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A103.dwg

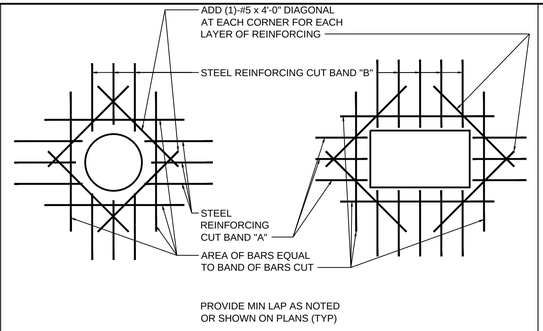
THIS SPACE NOT USED — 10

NONE

THIS SPACE NOT USED — 7

NONE

REINFORCEMENT AT OPENINGS — 4

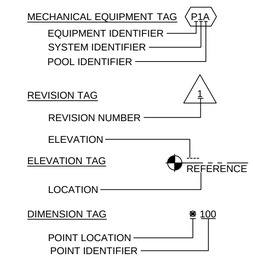


NOTES:

1. TYP FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS INCLUDING DRAINS UNLESS INDICATED OTHERWISE ON PLANS.
2. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
3. ALL OPENINGS THROUGH WATERTIGHT TANK REQUIRE WATERSTOPS.

NONE

TAG DESCRIPTIONS AND ABBREVIATIONS — 1



ABBREVIATIONS

TYP - TYPICAL	NPS - NOMINAL PIPE SIZE
EJ - EXPANSION JOINT	ID - INSIDE DIAMETER
CJ - CONTROL JOINT	OD - OUTSIDE DIAMETER
ELEVATION	MIN - MINIMUM
FFE - FINISH FLO0R ELEVATION	MAX - MAXIMUM
OC - ON CENTER	SCH - SCHEDULE
EW - EACH WAY	
DIA - DIAMETER	
SS - STAINLESS STEEL	

NONE

THIS SPACE NOT USED — 11

NONE

THIS SPACE NOT USED — 8

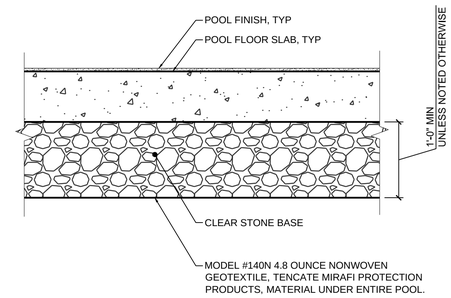
NONE

THIS SPACE NOT USED — 5

NONE

POOL BASE — 2

MATERIAL NOTE:
3/4" TO 1" CLEAR GRANULAR STONE WITH NO FINES PLACED IN MAX 6" THICK LIFTS.



NONE

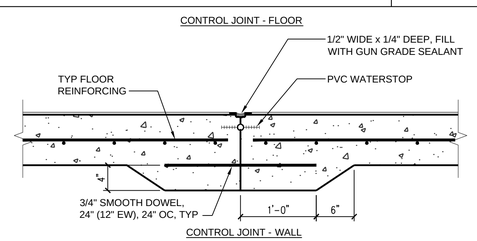
THIS SPACE NOT USED — 12

NONE

THIS SPACE NOT USED — 9

NONE

SPLASH PAD CONTROL JOINT — 6



NONE

STRUCTURAL REINFORCEMENT NOTE — 3

STRUCTURAL NOTES:

1. UNLESS OTHERWISE INDICATED, CONCRETE WALLS AND SLABS SHALL BE REINFORCED AS FOLLOWS: #4's @ 8" EACH WAY CENTER OF 8" SECTIONS; #4's @ 12" EACH WAY, EACH FACE OF 12" SECTIONS. SINGLE MAT REINFORCEMENT SHALL BE AT CENTER OF SECTION, UNLESS OTHERWISE INDICATED.
2. MIN CLEARANCE FOR REINFORCEMENT BARS, UNLESS OTHERWISE INDICATED, SHALL BE 3" WHEN PLACED ON GROUND; FOR SURFACES EXPOSED TO WATER, EARTH OR WEATHER - 1 1/2" CLEARANCE FOR #5 BARS OR SMALLER AND 2" CLEARANCE FOR LARGER THAN #5's; INTERIOR SLABS- 3/4" CLEARANCE, INTERIOR BEAMS 1 1/2" CLEARANCE. 2" AROUND ALL PIPES, LIGHT NICHES, AND OTHER EMBEDDED ITEMS.
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL IN GENERAL, THE WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE CALLED OUT ON THE PLANS AND REFERENCED TO THESE DETAILS AND THE TYP HORIZONTAL WALL REINFORCING SHALL LAP WITH CORNER AND INTERSECTION REINFORCING.
4. UNLESS OTHERWISE INDICATED, ALL WALL REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS. UNLESS OTHERWISE INDICATED, CONTRACTOR MAY SPLICE CONTINUOUS SLAB BARS AT LOCATIONS OF THERE CHOOSING, EXCEPT THAT TOP BAR SPLICES SHALL BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES SHALL BE LOCATED AT SUPPORTS. ALL REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE INDICATED, SHALL SATISFY THE FOLLOWING MIN REQUIREMENTS SHOWN BELOW.
5. DETAILS OF STRUCTURAL REINFORCEMENT INDICATED FOR A MIN SOIL BEARING PRESSURE OF 2500 PSF.

REINFORCEMENT LAP LENGTHS - DESIGN STRENGTH: CONCRETE 4000 PSI / SHOTCRETE 5000 PSI									
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
GR-60 TOP BAR	1'-7"	2'-1"	2'-7"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
GR-60 OTHER BAR	1'-3"	1'-7"	2'-0"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
STANDARD HOOK DIMENSION									
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
HOOK LENGTH	0'-7"	0'-9"	1'-0"	1'-2"	1'-4"	1'-6"	1'-11"	2'-2"	2'-5"

NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

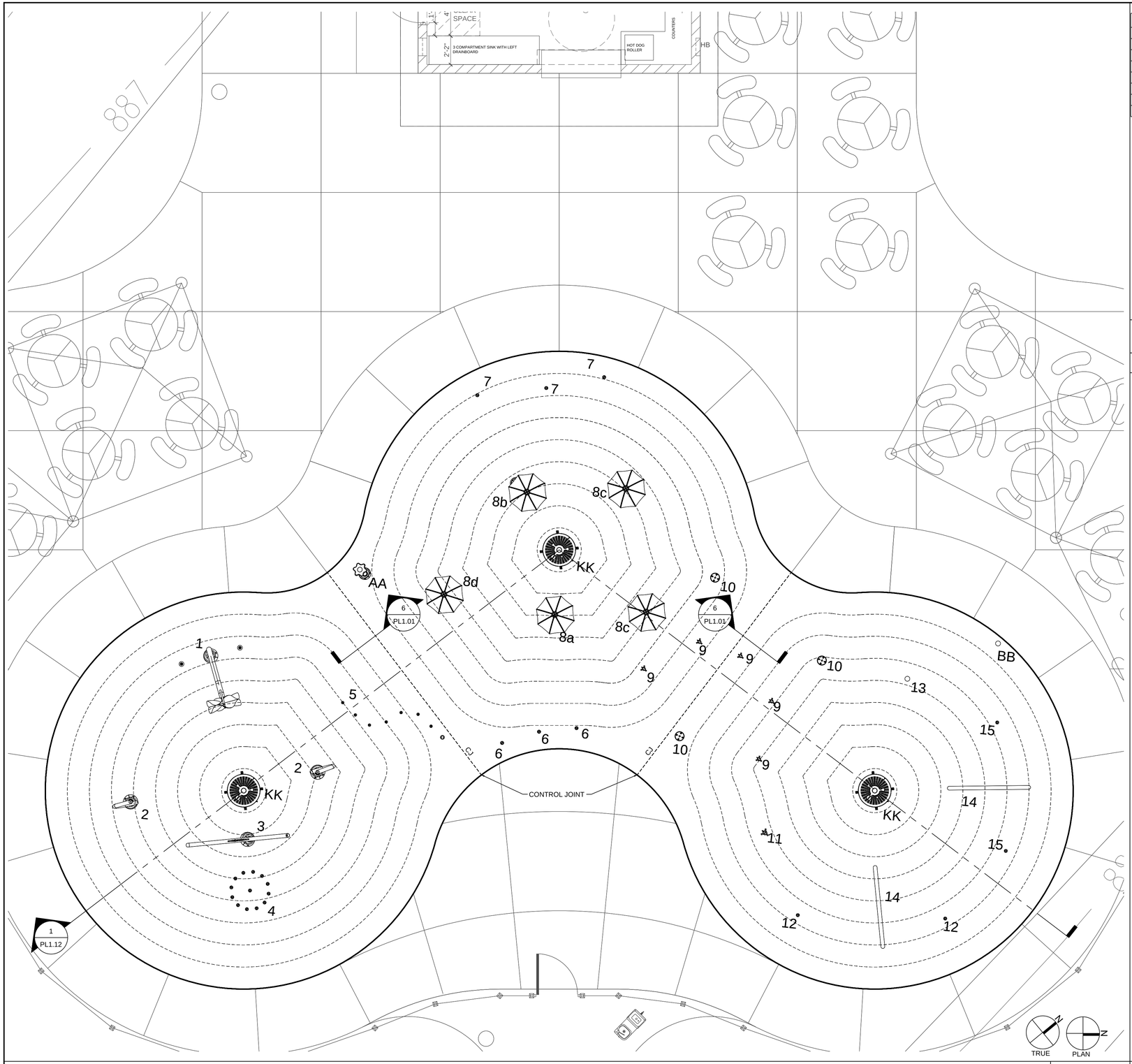
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GENERAL DETAILS AND SCHEDULES

PL1.01

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL101.dwg



POOL A SPLASH PAD - PLAN

3

1/8" = 1'-0"

SPLASH PAD DATA		
DESCRIPTION	QTY	UNITS
SURFACE AREA	2,200	SQUARE FEET
WATER CONTAINMENT VOLUME	3,000	GALLONS
CIRCULATION RATE	100	GPM
TURNOVER	30	MINUTES
FILTRATION RATE	14.23	GPM/FT²
PATRON LOAD	146	PERSONS

SPLASH PAD DATA

1

NONE

LEGEND-1

LINE	PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	Aqualien Power Spinner VOR-7620	1	1 1/2"	18	1/PL1.13
2	Loop No1 VOR-7719	2	1 1/2"	15	4/PL1.13
3	Bamboo No10 VOR-7730	1	1 1/2"	10	7/PL1.13
4	Team Spray No2 VOR-8061	1	1 1/2"	34	10/PL1.13
5	Team Spray No1 VOR-7640	1	1 1/2"	18	2/PL1.13
6	Directional Water Jet VOR-305	3	1 1/2"	12	5/PL1.13
7	Directional Water Jet VOR-305	3	1 1/2"	12	5/PL1.13
8	8a Ombrello Twirl No1 VOR-7446	1	1 1/2"	6	8/PL1.13
	8b Ombrello Twirl No2 VOR-7447	1		6	11/PL1.13
	8c Ombrello No2 VOR-7440	2		12	3/PL1.13
	8d Ombrello No1 VOR-7445	1		6	6/PL1.13
9	Jet Stream VOR-7512	5	1 1/2"	13	9/PL1.13
10	Aqualien Flower No1 VOR-7388	3	1 1/2"	23	12/PL1.13
11	Fountain Spray VOR-7513	1	1 1/2"	5	1/PL1.14
12	Ground Geyser VOR-301	2	1 1/2"	15	4/PL1.14
13	Aqua Dome No1 VOR-555	1	1 1/2"	14	6/PL1.14
14	Spray Loop VOR-519	2	1 1/2"	25	2/PL1.14
15	Ground Geyser VOR-301	2	1 1/2"	15	4/PL1.14

LEGEND-2

CODE	PRODUCT	QTY	LINE SIZE	DETAIL
AA	Watergarden Activator No1 VOR-612	1		9/PL1.14
BB	Foot Activator VOR-606	1		7/PL1.14
KK	Playsafe Drain No1 vor-1001.4000	3	8"	3/PL1.12

PLAY FEATURES LEGEND

2

NONE

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

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POOL A SPLASH PAD - PLAN

PL1.10

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL110.dwg

3 COMPARTMENT SINK WITH LEFT DRAINBOARD

HOT DOG ROLLER

FD

CP1

CONTROL POINT AT NORTHEAST CORNER OF MECHANICAL BUILDING

CONTROL POINT

CP6

R15'-0"

R7'-6"

AA149

AA126

AA

AA127

AA128

AA129

AA134

8b

AA130

8c

AA135

KK

8d

AA133

AA132

8a

AA131

AA122

AA146

CONTROL POINT

CP4

AA144

AA144-B

AA144-A

AA136

AA137

AA125

AA124

AA123

AA148

AA147

AA114

AA115

AA116

AA113

AA101

BB

AA119

AA120

AA117

AA102

AA118

AA121

AA104

AA105

AA103

AA112

AA108

AA106

AA109

AA111

AA107

AA110

AA145

AA138

AA143

AA140

AA141

AA139

AA142

CP3

CONTROL POINT

CP5

CONTROL POINT

CP2

CONTROL POINT

FEATURE DESIGNATION, TYP
SEE 2/PL1.10

TRUE

PLAN

X, Y TABLE

POINT ID	Position X	Position Y
AA101	1044.75	981.04
AA102	1048.50	976.39
AA103	1048.74	970.16
AA104	1051.15	972.18
AA105	1053.56	974.20
AA106	1055.16	969.31
AA107	1054.87	962.45
AA108	1048.22	962.17
AA109	1050.45	959.94
AA110	1052.67	957.72
AA111	1046.10	955.57
AA112	1040.23	958.80
AA113	1030.61	960.33
AA114	1025.29	962.54
AA115	1027.24	966.79
AA116	1030.33	967.94
AA117	1034.31	966.79
AA118	1036.35	962.81
AA119	1035.28	971.58
AA120	1041.15	974.63
AA121	1044.61	966.53
AA122	1025.07	971.28
AA123	1024.20	955.85
AA124	1022.19	953.84
AA125	1020.57	951.41
AA126	1004.42	954.69
AA127	1002.43	970.51
AA128	1006.11	974.24
AA129	1008.85	977.70
AA130	1016.08	972.38
AA131	1023.14	966.18
AA132	1017.47	961.43
AA133	1010.03	957.28
AA134	1008.92	967.24
AA135	1014.63	965.42
AA136	1009.33	946.11
AA137	1016.82	948.87
AA138	1011.20	940.85
AA139	1007.04	930.25
AA140	1010.34	933.56
AA141	1012.59	935.81
AA142	1012.93	930.69
AA143	1001.71	930.13
AA144	999.38	942.50
AA144-A	998.06	940.62
AA144-B	1000.69	944.38
AA145	1007.77	936.22
AA146	1029.26	975.24
AA147	1030.00	956.03
AA148	1020.87	948.55
AA149	1002.18	952.96
CP1	1000.00	1000.00
CP2	1061.32	972.46
CP3	998.73	921.00
CP4	1029.00	982.74
CP5	1030.38	946.28
CP6	994.88	954.66

POOL A - SPLASH PAD DIMENSION PLAN | 1

1/4" = 1'-0"

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL111.dwg

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

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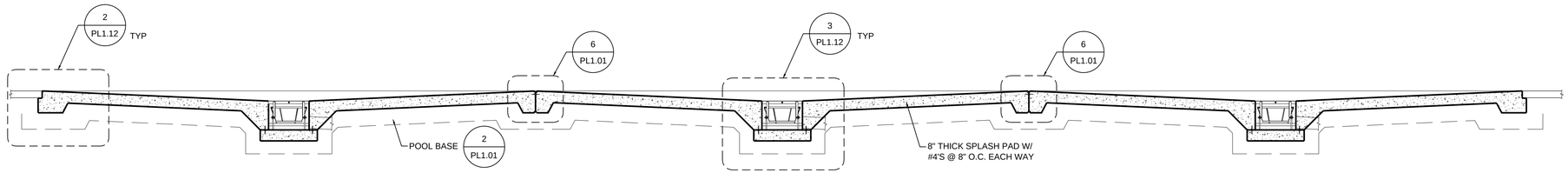
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

POOL A - SPLASH PAD
DIMENSION PLAN

PL1.11



POOL A - SECTION

1

NONE

THIS SPACE NOT USED

8

NONE

THIS SPACE NOT USED

6

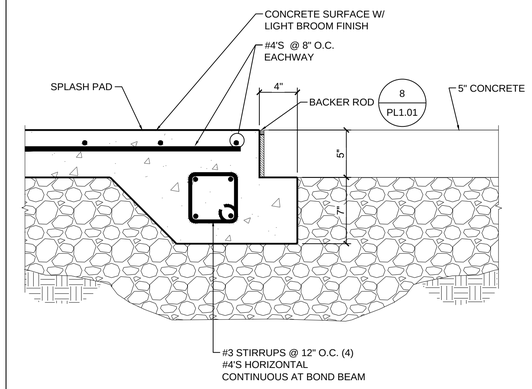
NONE

THIS SPACE NOT USED

4

NONE

SPLASH PAD AT 5" CONCRETE DECK



2

NONE

THIS SPACE NOT USED

9

NONE

THIS SPACE NOT USED

7

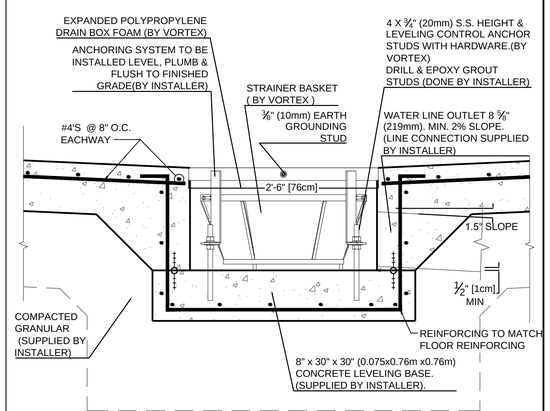
NONE

THIS SPACE NOT USED

5

NONE

PLAYSAFE DRAIN



3

NONE

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL112.dwg

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POOL A - SECTION, DETAILS

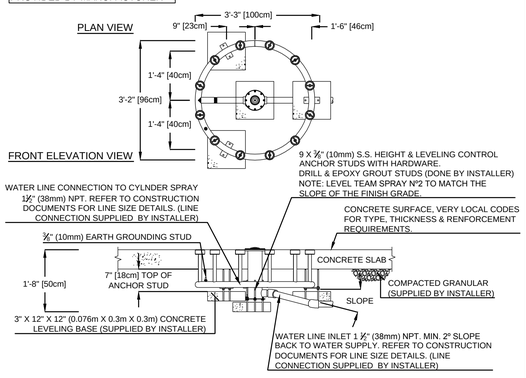
PL1.12

TEAM SPRAY #2

10

NONE

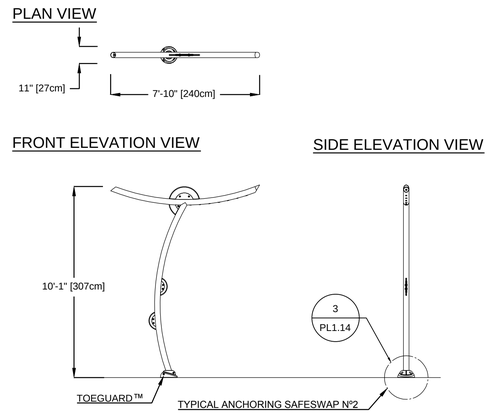
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



BAMBOO #10

7

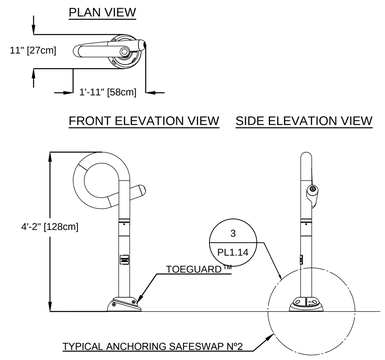
NONE



LOOP #1

4

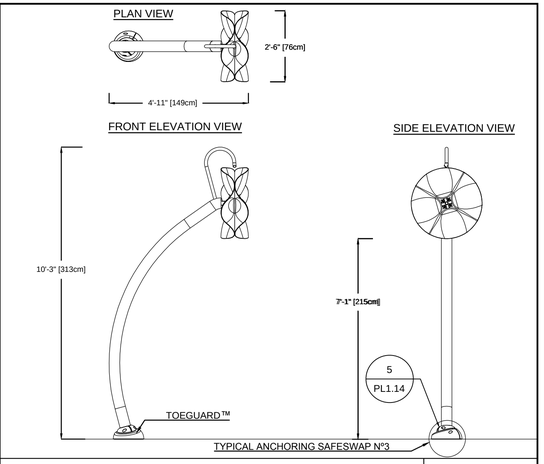
NONE



AQUILIEN POWER SPINNER

1

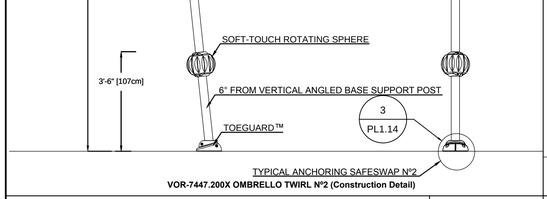
NONE



OMBRELLO TWIRL #2

11

NONE

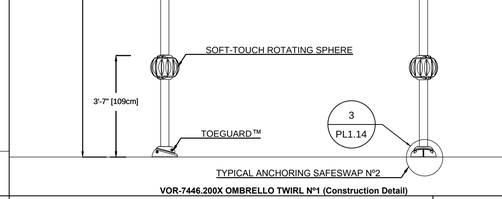


VOR-7447.200X OMBRELLO TWIRL Nº2 (Construction Detail)

OMBRELLO TWIRL #1

8

NONE



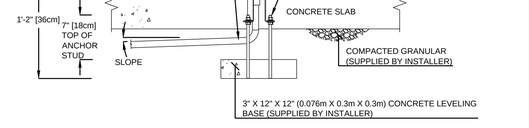
VOR-7446.200X OMBRELLO TWIRL Nº1 (Construction Detail)

DIRECTIONAL WATER JET

5

NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



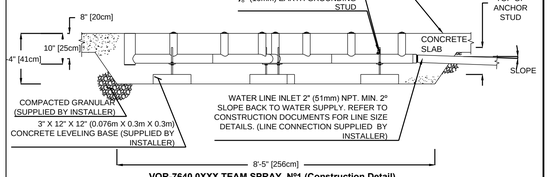
VOR-0305.4XXX DIRECTIONAL WATER JET (Construction Detail)

TEAM SPRAY #1

2

NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

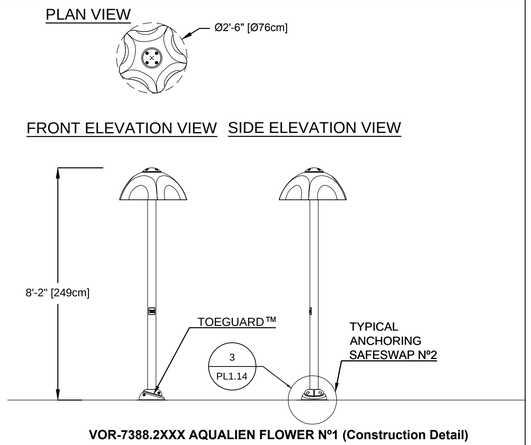


VOR-7640.0XXX TEAM SPRAY Nº1 (Construction Detail)

AQUILIEN FLOWER #1

12

NONE



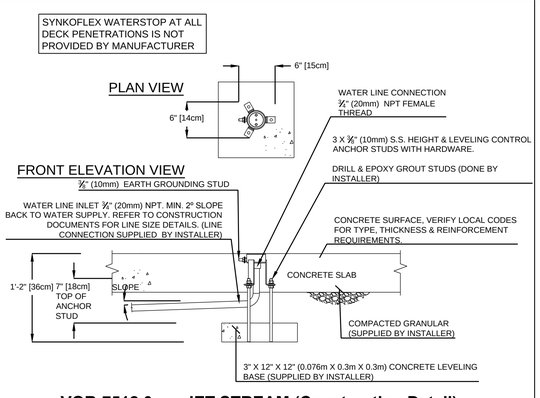
VOR-7388.2XXX AQUALIEN FLOWER Nº1 (Construction Detail)

JET STREAM

9

NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

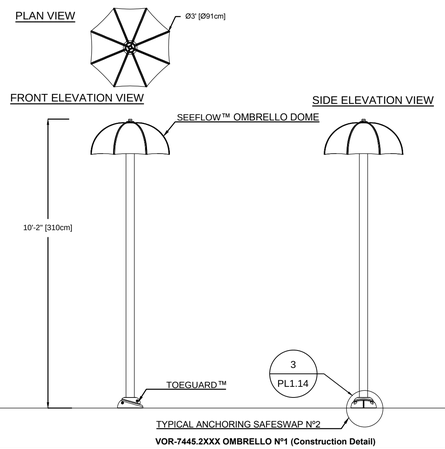


VOR-7512.0xxx JET STREAM (Construction Detail)

OMBRELLO #1

6

NONE

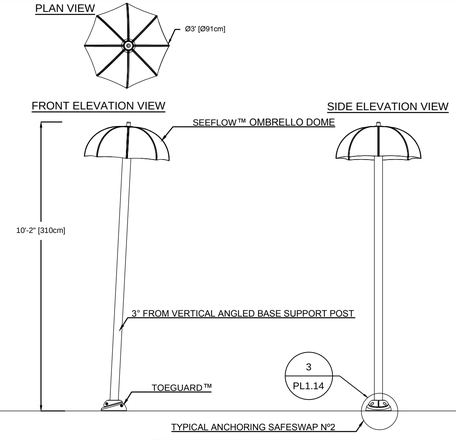


VOR-7445.2XXX OMBRELLO Nº1 (Construction Detail)

OMBRELLO #2

3

NONE



VOR-7440.2XXX OMBRELLO Nº2 (Construction Detail)

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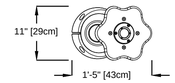
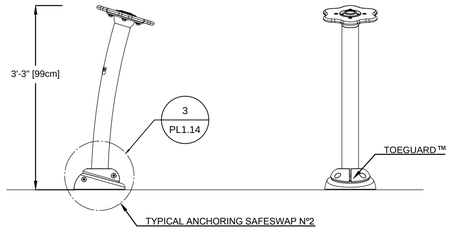
WATER FEATURE DETAILS

PL1.13

PLAN VIEW



FRONT ELEVATION VIEW



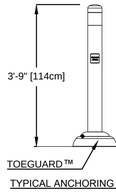
SIDE ELEVATION VIEW

WATER LINE CONNECTION REPLACED BY ELECTRICAL LINE CONNECTION. 14 AWG (2,5mm²)-2 WIRE CONDUCTOR TO BE USED FOR ELECTRICAL CONNECTION. (SUPPLIED BY INSTALLER)

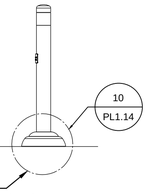
VOR-0612.2XXX WATER GARDEN ACTIVATOR N°1 (Construction Detail)

PLAN VIEW

FRONT ELEVATION VIEW



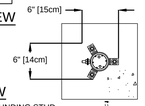
SIDE ELEVATION VIEW



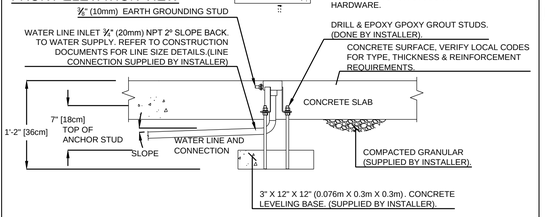
VOR-0555.2XXX AQUA DOME N°1 (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

PLAN VIEW



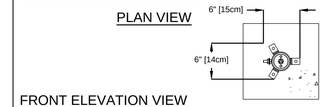
FRONT ELEVATION VIEW



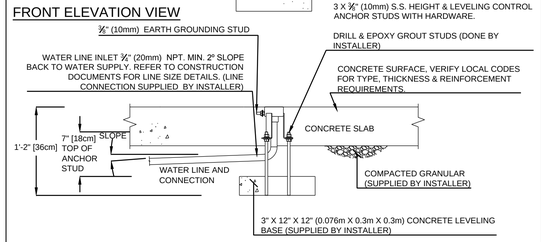
VOR-0301.4xxx GROUND GEYSER (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

PLAN VIEW



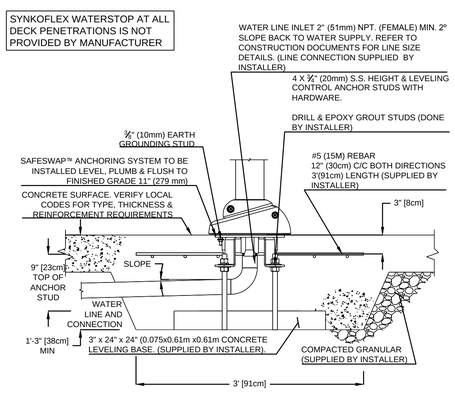
FRONT ELEVATION VIEW



VOR-7513.0XXX FOUNTAIN SPRAY (Construction Detail)

WATER GARDEN ACITVATOR #1	9	AQUA DOME	6	GROUND GEYSER	4	FOUNTAIN SPRAY	1
	NONE		NONE		NONE		NONE

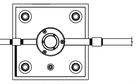
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



SAFESWAP N° 1 (Construction Detail) LARGE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

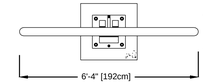
PLAN VIEW



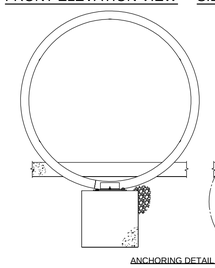
FRONT ELEVATION VIEW

VOR-0606.0XXX FOOT ACTIVATOR (Construction Detail)

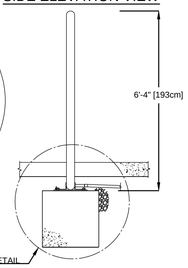
PLAN VIEW



FRONT ELEVATION VIEW

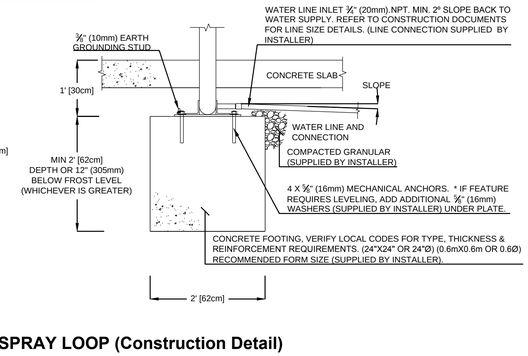


SIDE ELEVATION VIEW



ANCHORING DETAIL

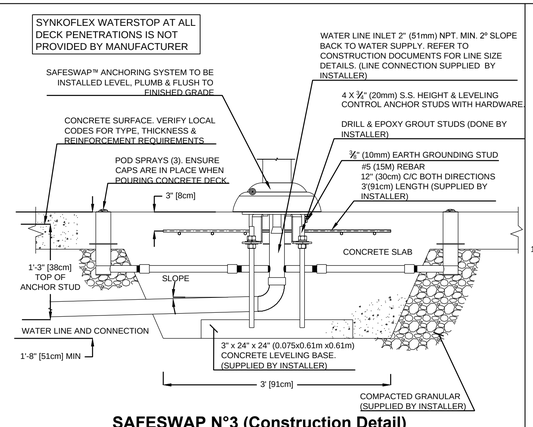
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-0519.0XXX SPRAY LOOP (Construction Detail)

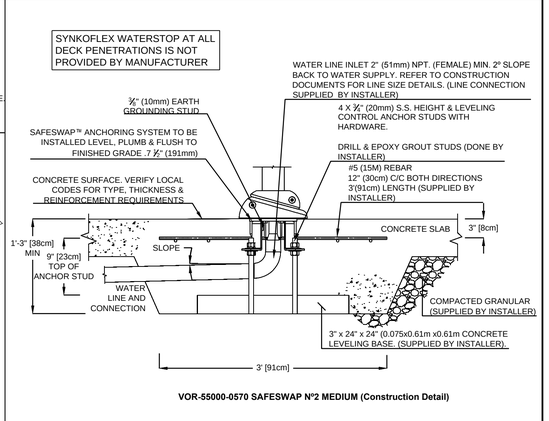
SAFE SWAP #1	10	FOOT ACTIVATOR	7	SPRAY LOOP	2
	NONE		NONE		NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



SAFESWAP N°3 (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-55000-0570 SAFESWAP N°2 MEDIUM (Construction Detail)

THIS SPACE NOT USED	11	THIS SPACE NOT USED	8	SAFE SWAP #3	5	SAFE SWAP #2	3
	NONE		NONE		NONE		NONE

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100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
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Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com
#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

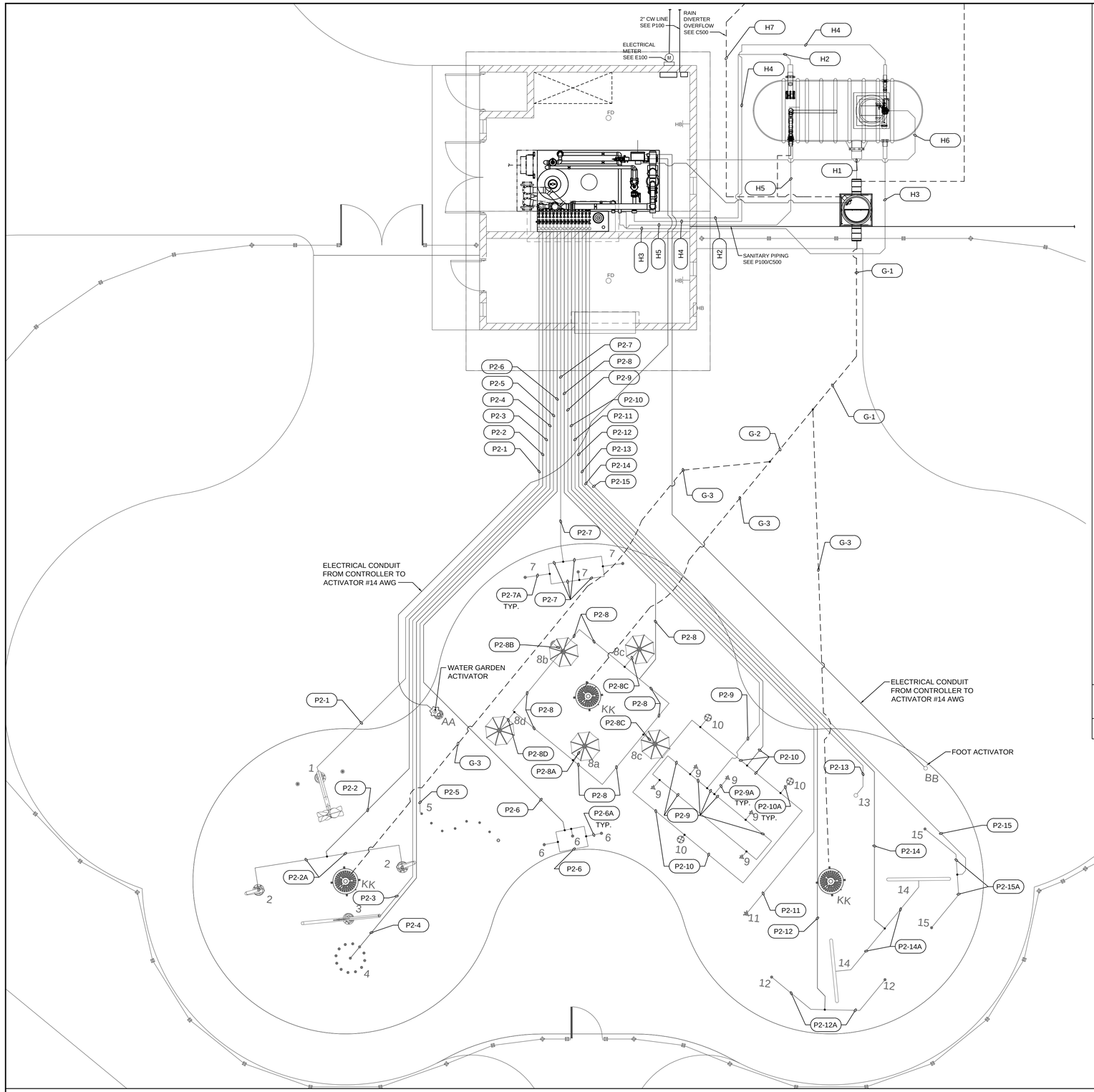
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

WATER FEATURE DETAILS

PL1.14

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL114.dwg



POOL A PIPE SCHEDULE

PIPE ID	TYPE	NPS (in)	FLOW (gpm)	VELOCITY (fps)	DESCRIPTION
G-1	PVC SCH 80	10	259	1.2	SPLASH PAD DRAIN
G-2	PVC SCH 80	8	173	1.2	SPLASH PAD DRAIN
G-3	PVC SCH 80	8	86	0.6	SPLASH PAD DRAIN
-	-	-	-	-	-
H1	PVC SCH 80	10	259	1.2	MAIN DRAIN RETURN
H2	PVC SCH 80	6	259	3.2	PLAY PRODUCT SUCTION OUTLET
H3	PVC SCH 80	3	158	7.9	BYPASS RETURN
H4	PVC SCH 80	4	101	2.9	FILTER PUMP SUCTION OUTLET
H5	PVC SCH 80	3	101	5.0	FILTER RETURN
H6	PVC SCH 80	1	0	0.0	FRESH WATER INLET
H7	PVC SCH 80	4	0	0.0	RAIN DIVERTER/OVERFLOW OUTLET - TERMINATE TO DAYLIGHT AT SOUTHERN TENNIS COURT DRAIN SWALE
L8	PVC SCH 80	3	105	5.2	FILTER BACKWASH
-	-	-	-	-	-
P2-1	PVC SCH 80	1.5	18	3.4	AQUALIEN POWER SPINNER
P2-2	PVC SCH 80	1.5	15	2.8	LOOP NO. 1
P2-2A	PVC SCH 80	1.5	8	1.4	LOOP NO. 1
P2-3	PVC SCH 80	1.5	10	1.9	BAMBOO NO. 10
P2-4	PVC SCH 80	1.5	34	6.4	TEAM SPRAY NO. 2 SUPPLY
P2-5	PVC SCH 80	1.5	18	3.4	TEAM SPRAY NO. 1 SUPPLY
P2-6	PVC SCH 80	1.5	12	2.2	DIRECTIONAL WATER JET SUPPLY
P2-6A	PVC SCH 80	1.5	4	0.7	DIRECTIONAL WATER JET SUPPLY
P2-7	PVC SCH 80	1.5	12	2.2	DIRECTIONAL WATER JET SUPPLY
P2-7A	PVC SCH 80	1.5	4	0.7	DIRECTIONAL WATER JET SUPPLY
P2-8	PVC SCH 80	1.5	30	5.6	OMBRELLA'S SUPPLY
P2-8A	PVC SCH 80	1.5	6	1.1	OMBRELLA TWIRL NO. 1 SUPPLY
P2-8B	PVC SCH 80	1.5	6	1.1	OMBRELLA TWIRL NO. 2 SUPPLY
P2-8C	PVC SCH 80	1.5	6	1.1	OMBRELLA NO. 2 SUPPLY
P2-8D	PVC SCH 80	1.5	6	1.1	OMBRELLA NO. 1 SUPPLY
P2-9	PVC SCH 80	1.5	13	2.4	JET STREAM SUPPLY
P2-9A	PVC SCH 80	1.5	3	0.5	JET STREAM SUPPLY
P2-10	PVC SCH 80	1.5	13	2.4	AQUALIEN FLOWER NO. 1
P2-10A	PVC SCH 80	1.5	3	0.5	AQUALIEN FLOWER NO. 1
P2-11	PVC SCH 80	1.5	5	0.9	FOUNTAIN SPRAY
P2-12	PVC SCH 80	1.5	15	2.8	GROUND GEYSER SUPPLY
P2-12A	PVC SCH 80	1.5	8	1.4	GROUND GEYSER SUPPLY
P2-13	PVC SCH 80	1.5	14	2.6	AQUA DOME NO.1
P2-14	PVC SCH 80	1.5	25	4.7	SPRAY LOOP SUPPLY
P2-14A	PVC SCH 80	1.5	13	2.3	SPRAY LOOP SUPPLY
P2-15	PVC SCH 80	1.5	15	2.8	GROUND GEYSER SUPPLY

POOL A PIPE SCHEDULE | **1**

NONE

SPRAY PAD - PIPING PLAN | **2**

3/16 = 1'-0"

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100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
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Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com
#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

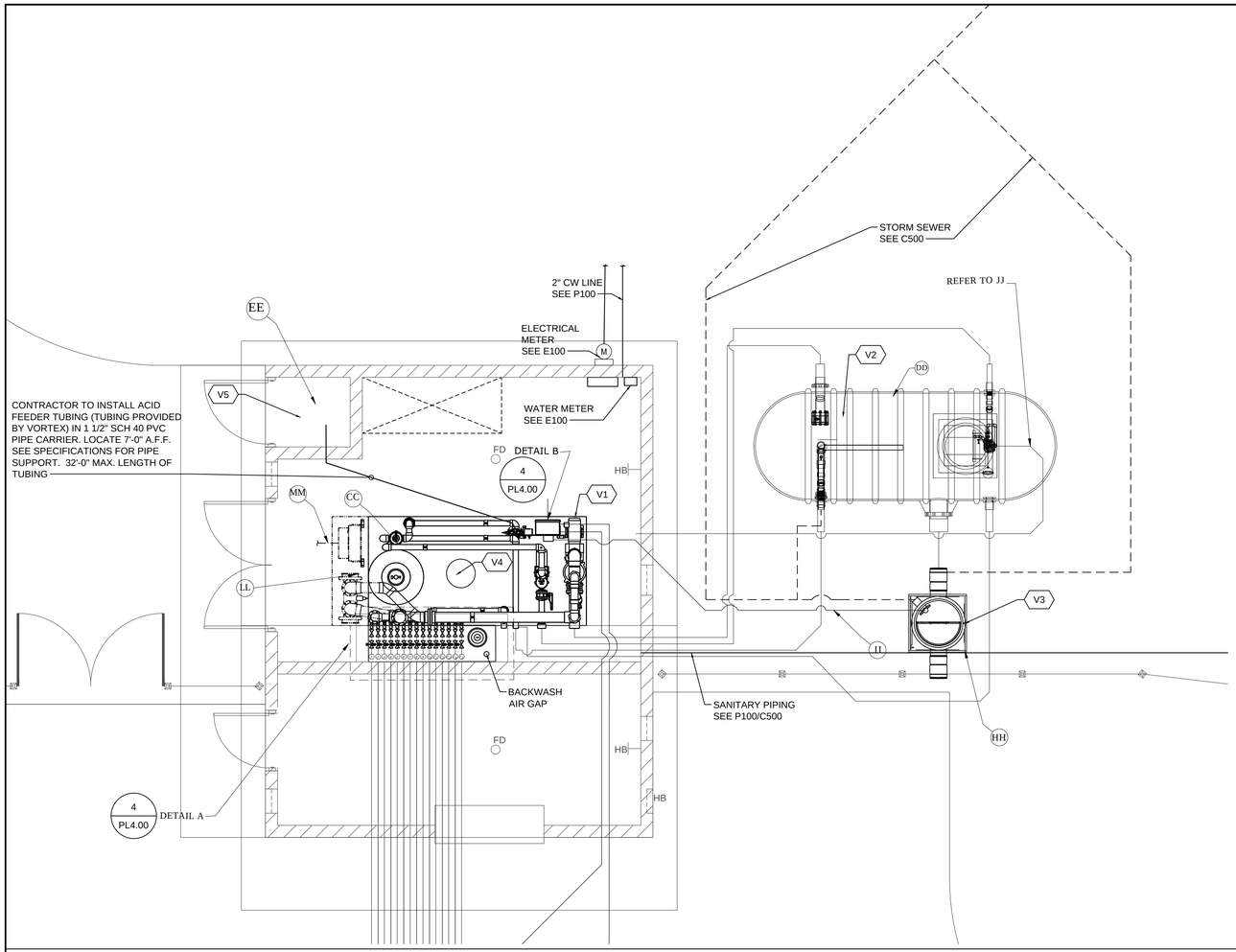
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

POOL A - PIPING AND DETAILS

PL3.00

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL300.dwg



NOTE:

1. FOR PLAY PRODUCT & WATER QUALITY MANAGEMENT SYSTEM INSTALATION DETAILS REFER TO INSTALL DRAWINGS.SKID MOUNTED EQUIPMENT AND STUB UP LOCATIONS TO BE FINALIZED PRIOR TO CONSTRUCTION.
2. SPLASHPAD ACTIVITY DECK & DRAIN LINES ARE TO HAVE A 1-2% SLOPE TO OPTIMIZE DRAINAGE.
3. ALL PIPING TO FEATURES ARE TO HAVE A 1-2% SLOPE FOR WINTERIZATION.
4. ALL LINE SIZING FROM LEGEND 1 ASSUMES A MAXIMUM DISTANCE OF 100 FEET BETWEEN THE WATER DISTRIBUTION MANIFOLD AND THE FURTHEST PLAY PRODUCT. DISTANCES ABOVE 100 FEET MAY REQUIRE AN INCREASE IN LINE SIZING. CONTRACTOR TO COORDINATE WITH VORTEX.
5. ALL PIPING BETWEEN THE DECK DRAINS, PLAY PRODUCTS AND PLAYSAFE DRAIN No1 WATER CONTAINMENT SYSTEM ARE TO BE SCHEDULE 80 PVC.
6. LINES FROM PLAYSAFE DRAIN No1 SHALL BE 8" AND SHALL COMBINE INTO A 10" LINE. LINE ROUTING TO BE DETERMINED ON SITE BY CONTRACTOR.
7. FINAL LOCATION OF PLAYSAFE DRAIN No1 AND LINE ROUTING ARE TO BE DETERMINED BY CONTRACTOR
8. WHEN CONNECTING MULTIPLE PLAY PRODUCTS TO ONE FEEDER LINE, THE JUNCTION POINT (SPLIT OR T) SHALL BE PLACED IN THE MID POINT BETWEEN EACH PLAY PRODUCT. FAILURE TO DO SO MAY RESULT IN UNEQUAL SPRAY EFFECTS BETWEEN PLAY PRODUCTS.
9. WIRING FROM THE CONTROLLER TO EACH ACTIVATOR SHALL BE #14 AWG. A TOTAL OF TWO (2) CONDUCTORS PER ACTIVATOR.
10. ALL CONNECTIONS TO THE CONTROLLER SHALL BE PERFORMED USING AN APPROVED NEMA 4X CONNECTOR.
11. TOTAL COMBINED FLOW CAPACITY OF PLAY PRODUCT IS 259 GPM.

MECHANICAL EQUIPMENT SCHEDULE

DRAWING	ID TAG	DESCRIPTION	QTY.	BASIS OF DESIGN
4/4	V1	FILTRATION	1	VORTEX WATER QUALITY MANAGEMENT SYSTEM
4/4	V2	WATER CONTAINMENT TANK	1	VORTEX WATER CONTAINMENT SYSTEM
4/4	V3	DEBRIS TRAP	1	VORTEX DEBRIS TRAP
4/4	V4	CHLORINE SYSTEM	1	VORTEX PULSAR SYSTEM
4/4	V5	PH SYSTEM	1	VORTEX ACID FEED SYSTEM

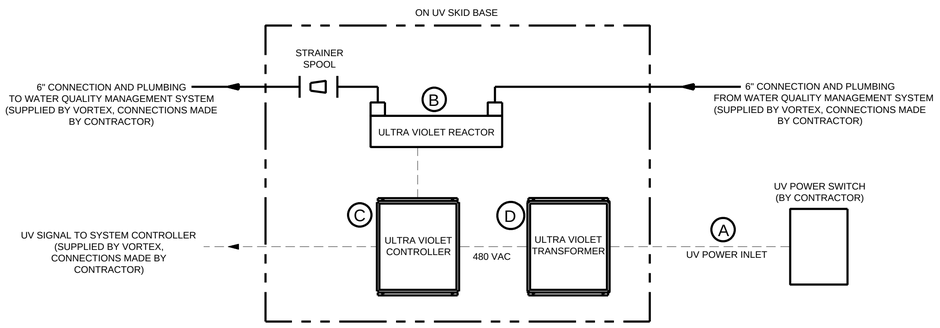
EQUIPMENT SCHEDULE 1

NONE

CODE	PRODUCT	QTY	PROVIDED BY
CC	Water Quality Management System VOR-2050765.5000		VORTEX
DD	Water Containment System (3000 GAL) VOR-5311.0000		VORTEX
EE	Chemical Reservoir	1	VORTEX
FF	Electrical Conduit from Controller to Activator; 2 Conductors#14 AWG	2	CONTRACTOR
GG	Main Power, 230 VAC Single Phase, 60Hz See WQMS Installation Drawing		CONTRACTOR
HH	Debris Trap with Rain Diverter VOR-5322		VORTEX
II	Electrical Conduit from Rain Diverter Junction Box to Rain Diverter; 4 Conductors#14 AWG		CONTRACTOR
JJ	Makeup Water Line		CONTRACTOR
LL	UV SYSTEM VOR-44100.0009		VORTEX
MM	UV Power, 230 VAC Single Phase, 60Hz See UV Installation Drawing		CONTRACTOR
	Ball Valve	15	VORTEX
	Solenoid Valve	15	VORTEX
	Backflow Preventor		CONTRACTOR

MECHANICAL PLAN 3

1/4" = 1'-0"

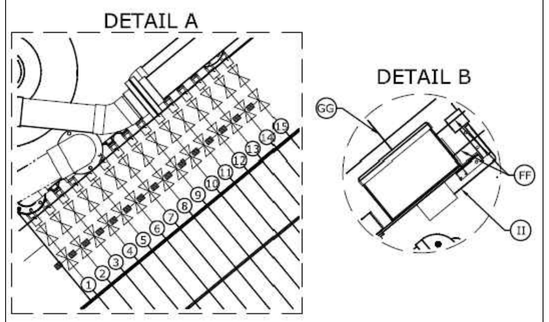


44100.0009R01 UV SYSTEM 365 GPM, SKID 2' X 6', 230V 1 PHASE, 6" PIPING

SEE PL4.01 FOR UV SPECIFICATION TABLE

UV SYSTEM SCHEMATIC 5

NONE



MECHANICAL DETAILS 4

NONE

EQUIPMENT LEGEND 2

NONE

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WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

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DATE	06/18/2013
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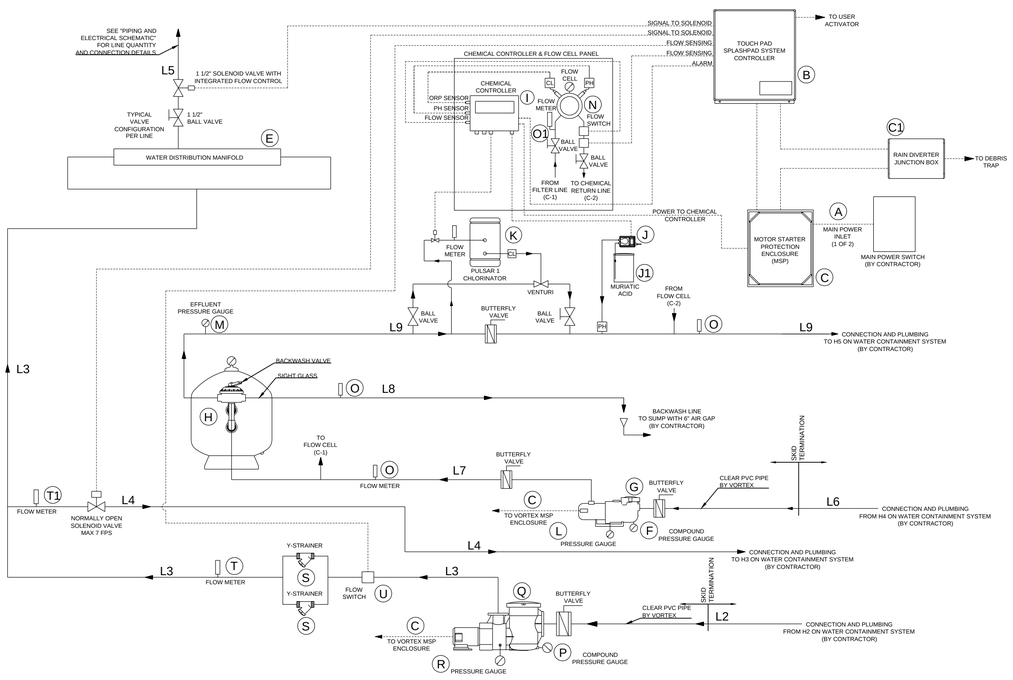
CHECKED BY	DGM
PHASE	BID DOCUMENTS

MECHANICAL PLAN, EQUIPMENT LIST AND DETAILS

PL4.00

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL400.dwg



VOR-2040765.5000R01 WATER QUALITY MANAGEMENT SYSTEM

WATER QUALITY MANAGEMENT SYSTEM

ALL EQUIPMENT SHOWN SHALL BE PROVIDED BY VORTEX ON THEIR EQUIPMENT SKID, UNLESS LISTED A BY CONTRACTOR. SKID INTALLATIONSHALL BE BY CONTRACTOR

3

NONE

WATER QUALITY MANAGEMENT SYSTEM SPECIFICATIONS				
ITEM	ITEM	PROVIDED BY	DESCRIPTION	QTY
GENERAL				
A	MAIN ELECTRICAL POWER	CONTRACTOR	230 VAC, 45 AMPS, SINGLE PHASE, 60 Hz.	1
B	SPLASHPAD SYSTEM CONTROLLER	VORTEX	26 OUTPUT TOUCH SCREEN INTERFACE CONTROLLER, PREWIRED TO ALL SKID MOUNTED COMPONENTS. USER PROGRAMMABLE OPERATIONAL HOUR TIME CLOCK AND SPLASHPAD SPRAY SEQUENCES. INCLUDE FACTORY PRESET SPRAY SEQUENCE. EQUIPMENT AND ALARM FAILSAFES.	1
C	MOTOR STARTER PROTECTION ENCLOSURE	VORTEX	MOTOR STARTERS AND OVERLOAD RELAYS. INDIVIDUAL CONTROL FOR EACH PUMP.	1
C1	RAIN DIVERTER JUNCTION BOX	VORTEX	PREWIRED TO SYSTEM CONTROLLER & MOTOR STARTER PROTECTION ENCLOSURE. CONTROL VALVE FOR RAIN DIVERTER IN DEBRIS TRAP.	1
D	WQMS SKID BASE	VORTEX	FIBER REINFORCED POLYMER COMPOSITE 72" WIDE X 144" LONG.	1
E	WATER DISTRIBUTION MANIFOLD	VORTEX	15 VALVES DISTRIBUTION MANIFOLD, PREWIRED TO ALL SOLENOIDS. WITH BALL VALVES.	1
FILTRATION AND CHEMICAL TREATMENT LOOP				
F	COMPOUND GAUGE	WINTER INSTRUMENTS *	COMPOUND GAUGE, 0-30" Hg / 0-60 PSI	1
G	FILTRATION PUMP	PENTAIR, WHISPERFLO, WFK-12 *	3 HP, SELF PRIMING PUMP, SINGLE PHASE 230V, 127 GPM @ 70 FT HD, 141 GPM @ 60 FT HD, 10.4 AMPS FLA @ 230V. NSF CERTIFIED.	1
H	SAND FILTER	PENTAIR, TRITON, TR-140C *	7.00 SQ. FT, 106 GPM @ 15 GPM/SQ. FT, 36" DIAMETER, BACKWASH VALVE INCLUDED. NSF CERTIFIED.	1
I	CHEMICAL CONTROLLER	BECS TECHNOLOGY, BECSYS3 *	ORP AND PH CONTROL WITH HIGH / LOW READING ALARM. NSF 50 CERTIFIED.	1
J	PERISTALTIC PUMP	BLUE-WHITE IND, A1N20A-6T **	UP TO 24GPD FEED CAPACITY, NSF CERTIFIED.	1
J1	CHEMICAL RESERVOIR	VORTEX **	DOUBLE WALL 50 GAL. POLYETHYLENE TANK. 26.5" DIA. x 38" H. 40 CFR CERTIFIED.	1
K	CHLORINE FEED SYSTEM	PULSAR 1 CHLORINATOR **	CALCIUM HYPOCHLORITE AUTOMATIC CHLORINATOR. NSF CERTIFIED.	1
L	PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
M	EFFLUENT PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
N	FLOW SWITCH	HARWILL *	FLOW SWITCH, 24V	2
O	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	3" PIPE FLOW METER, 40-140 GPM READING	3
O1	FLOW METER	BLUE-WHITE IND, F-400 SERIES *	3/8" PIPE FLOW METER, 0.2-2 GPM READING	1
PLAY PRODUCT LOOP				
P	COMPOUND GAUGE	WINTER INSTRUMENTS *	COMPOUND GAUGE, 0-30" Hg / 0-60 PSI	1
Q	PLAY PRODUCT PUMP	PENTAIR, EQ SERIES, EQK750 *	7.5 HP, SELF PRIMING PUMP, SINGLE PHASE 230V, 335 GPM @ 70 FT HD, 390 GPM @ 60 FT HD, 19.2 AMPS FLA @ 230V. NSF CERTIFIED.	1
R	PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
S	Y-STRAINER	SPEARS *	4" PVC STRAINER WITH MESH BASKET	2
T	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	6" PIPE FLOW METER, 250-1050 GPM READING	1
T1	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	3" PIPE FLOW METER, 80-300 GPM READING	1
U	FLOW SWITCH	IFM EFECTOR *	FLOW SWITCH, 24V	1

LINE SIZE CONNECTION CHART				
BY	FROM	TO	ITEM	SIZE
VORTEX	PLAY PRODUCT PUMP Q	WATER DISTRIBUTION MANIFOLD E	L3	6" / 4"(2)
VORTEX	FILTRATION PUMP G	SAND FILTER H	L7	3"
CONTRACTOR	WATER CONTAINMENT SYSTEM H2	PLAY PRODUCT PUMP Q	L2	6"
CONTRACTOR	LINE L3	WATER CONTAINMENT SYSTEM H4	L4	3"
CONTRACTOR	WATER DISTRIBUTION MANIFOLD E	PLAY PRODUCTS	L5	SEE SHEET 3
CONTRACTOR	WATER CONTAINMENT SYSTEM H4	FILTRATION PUMP G	L6	4"
CONTRACTOR	SAND FILTER H	SANITARY SEWER SYSTEM	L8	3"
CONTRACTOR	SAND FILTER H	WATER CONTAINMENT SYSTEM H5	L9	3"

NOTE: REFER TO VORTEX' WATER QUALITY MANGEMENT SYSTEM AND VORTEX' WATER CONTAINMENT SYSTEM FOR PIPE SIZES. BETWEEN THE TWO SYSTEMS, PUT THE LESSER OF THE TWO PIPE SIZE. IF THE WATER CONTAINMENT SYSTEM IS NOT BY VORTEX, REFER TO VORTEX' WATER QUALITY MANAGEMENT SYSTEM FOR PIPE SIZE.

UV SYSTEM SPECIFICATIONS				
ITEM	ITEM	PROVIDED BY	DESCRIPTION	QTY
A	UV ELECTRICAL POWER	CONTRACTOR	230 VAC, 35 AMPS, SINGLE PHASE, 60 Hz.	1
B	ULTRA VIOLET REACTOR	ETS, SP-25-6	MEDIUM PRESSURE, 365 GPM, STAINLESS STEEL CHAMBER	1
C	ULTRA VIOLET CONTROLLER	ETS, SP-A-480	CONTROL PANEL, 3 PHASE, 480 VAC, 9.5 AMPS, 30 LINEAR FEET OF CABLE PROVIDED. NSF 50 CERTIFIED	1
D	ULTRA VIOLET TRANSFORMER	ETS	EXTERNAL TRANSFORMER 230-480V, 1PH-1PH.	1
E	UV SKID BASE	VORTEX	FIBER REINFORCED POLYMER COMPOSITE 24" WIDE X 72" LONG.	1

ELECTRICAL NOTES

1. ALL WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE ARTICLE 680 (2011), STATE, AND LOCAL ELECTRICAL CODES.
2. THE SPLASH PAD SHALL BE GROUNDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
3. THE SPLASH PAD SHALL BE BONDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
4. THE CHEMICAL CONTROLLER, SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.
5. THE CHLORINE BOOSTER PUMP , SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.

* PROVIDED BY VORTEX AS PART OF THE WATER QUALITY MANAGEMENT SYSTEM. ALL EQUIPMENT IS PROVIDED ON A SKID., THE SKID SHALL BE INSTALLED BY CONTRACTOR.

** PROVIDED BY VORTEX AS A PART OF THE WATER QUALITY MANAGEMENT SYSTEM. INSTALLED BY VORTEX.

VOR-2040765.5000R01 WATER QUALITY MANAGEMENT SYSTEM

WATER QUALITY MANAGEMENT SYSTEM

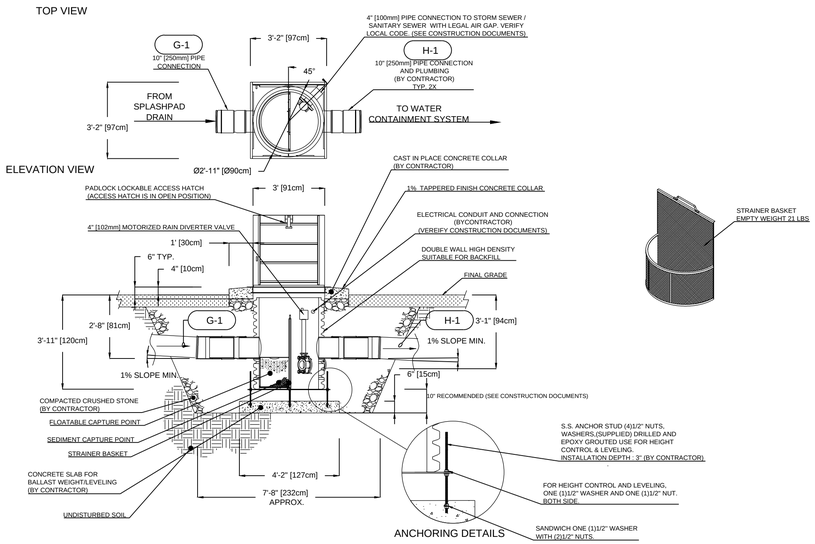
4

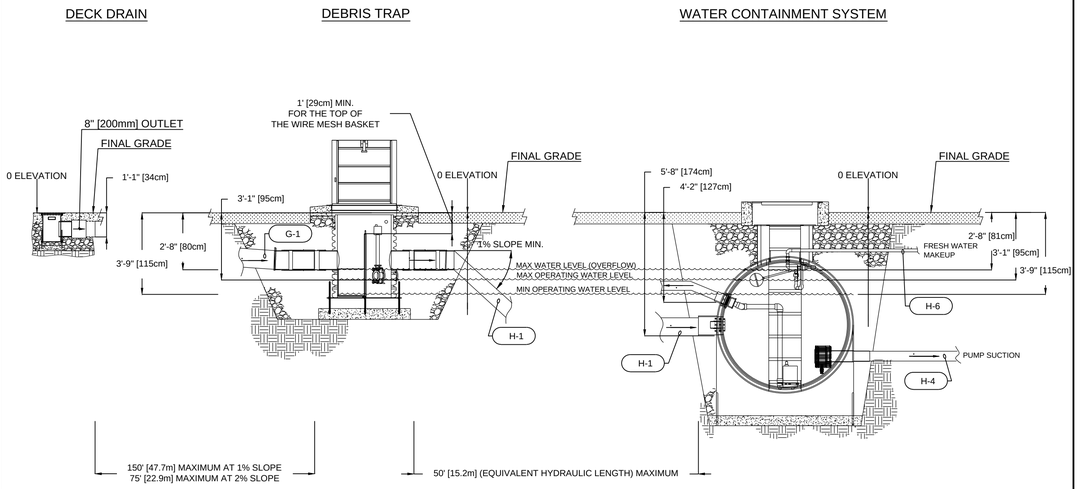
NONE

DEBRIS TRAP HDPE WITH RAIN DIVERTER

1

NONE





NOTES:
1. ALL DRAINAGE LINES ARE GRAVITY FEED. 1% SLOPE MIN, 2% SUGGESTED.

DEBRIS TRAP HDPE WITH RAIN DIVERTER AND WATER CONTAINMENT SYSTEM

2

NONE

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

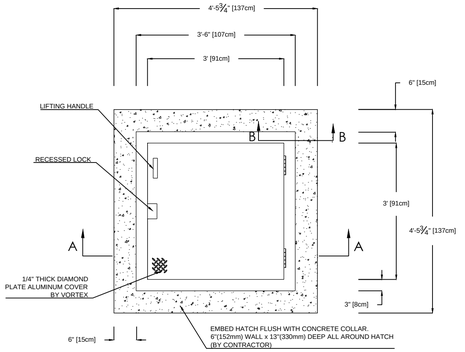
DATE	06/18/2013
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

REFERENCE DRAWINGS BY VORTEX

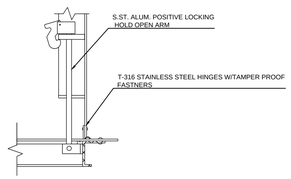
PL4.01

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL401.dwg

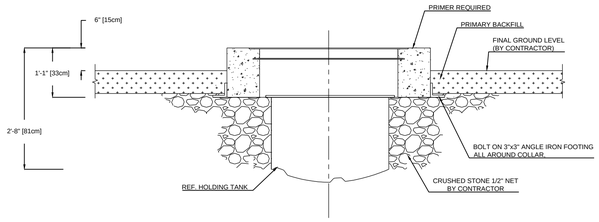
PLAN VIEW



NOTE: COVER SHOWN IN OPEN POSITION.



SECTION B-B



SECTION A-A

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G | 3 | NONE

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

The 3000-gallon tank shall be a pre-fabricated unit designed to safely store the water used for the facility. The tank shall be pre-assembled at the factory and shall include the following connections: one 10” inlet for main drain, one 6” feature pump suction outlet , one 3” return inlet from feature pump, one 4” filter pump suction outlet, one 3” filtration return inlet, one 1” inlet for freshwater and one 4” outlet for overflow/discharge. The tank shall also include a water level detection system and one access hatch with ladder. It shall include the following:

Tank
- 3000 gallon capacity
- Fiberglass
- Single wall
- Ø 73”, ~193” long
- Fiberglass ladder included

Anchor
- Anchoring straps with hardware
- U-bolt type embedded in concrete

Access hatch
- Aluminum access hatch
- Hinged and pad-locked, with aluminum frame and SS hardware

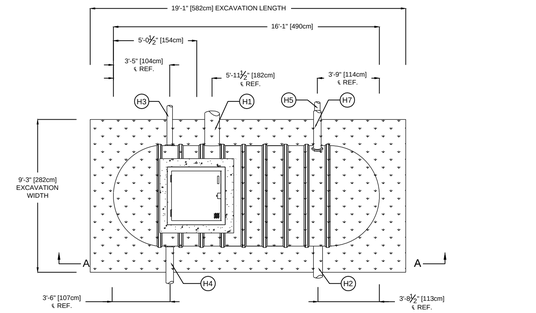
Level control
- Float valve connected to make up water line
- Polypropylene anti corrosion valve
- Inlet size 1”, outlet size 1”
- Maximum working pressure 100 psi

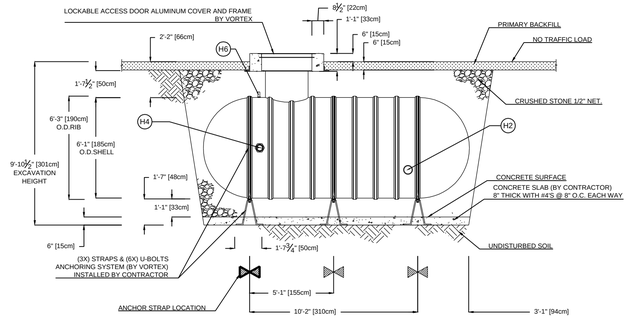
Inlets
- 10” inlet for main drain
- 3” inlet for feature return
- 3” inlet for filtration return
- 1” inlet for freshwater

Outlets
- 6” outlet for play product pump
- 4” outlet for filter pump
- 4” outlet for overflow / discharge

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR | 4 | NONE



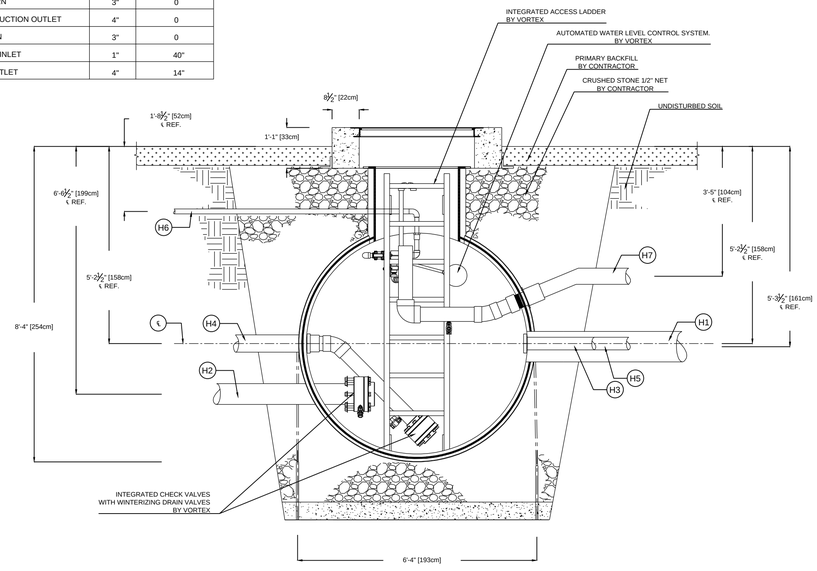


SECTION A-A

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR | 1 | NONE

LINE	DESCRIPTION	SIZE	HEIGHT FROM C/L
H 1	MAIN DRAIN RETURN	10"	-1"
H 2	PLAY PRODUCT SUCTION OUTLET	6"	-16"
H 3	BYPASS RETURN	3"	0
H 4	FILTER PUMP SUCTION OUTLET	4"	0
H 5	FILTER RETURN	3"	0
H 6	FRESH WATER INLET	1"	40"
H 7	OVERFLOW OUTLET	4"	14"



VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR | 2 | NONE

WTI
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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

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PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

REFERENCE DRAWING BY VORTEX

PL4.02

Date: Monday, June 17, 2013 Plotted by: Michael schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL402.dwg

PLUMBING SYMBOLS, ABBREVIATIONS, SCHEDULES & SHEET INDEX

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN THE DRAWINGS AND MAY NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE DRAWINGS.

PLUMBING ABBREVIATIONS

A	-	AIR	LAV	-	LAVATORY
AFF	-	ABOVE FINISHED FLOOR	LBS.	-	POUNDS
AFG	-	ABOVE FINISHED GRADE	LB/HR	-	POUNDS PER HOUR
ALT	-	ALTERNATE			
AP	-	ACCESS PANEL	MAX	-	MAXIMUM
APPROX.	-	APPROXIMATELY	MB	-	MOP BASIN
ARCH	-	ARCHITECTURAL	MBH	-	THOUSANDS OF BTU PER HOUR
AVG	-	AVERAGE	MC	-	MECHANICAL CONTRACTOR
AW	-	ACID WASTE	MEP	-	MECHANICAL, ELECTRICAL AND PIPING
			MER	-	MECHANICAL EQUIPMENT ROOM
BFF	-	BELOW FINISHED FLOOR	MEZZ	-	MEZZANINE
BLDG	-	BUILDING	MFR	-	MANUFACTURER
BOT	-	BOTTOM	MH	-	MANHOLE
BOP	-	BOTTOM OF PIPE	MIN.	-	MINIMUM
BT	-	BATHTUB	MISC	-	MISCELLANEOUS
BTU	-	BRITISH THERMAL UNITS	MTD	-	MOUNTED
BTUH	-	BRITISH THERMAL UNITS PER HOUR	MTG	-	MOUNTING
BV	-	BALANCING VALVE			
			NA	-	NOT APPLICABLE
CAP	-	CEILING ACCESS PANEL	NIC	-	NOT IN CONTRACT
CC	-	CAPPED CONNECTION	NO	-	NUMBER
CFH	-	CUBIC FEET PER MINUTE	NPS	-	NOMINAL PIPE SIZE
CFM	-	CUBIC FEET PER HOUR	NTS	-	NOT TO SCALE
CL	-	CENTERLINE			
CLG	-	CEILING	OC	-	ON CENTER
CLV	-	CLEAR WATER VENT	OD	-	OUTSIDE DIAMETER
CLW	-	CLEAR WATER WASTE	OFCI	-	OWNER FURNISHED, CONTRACTOR INSTALLED
CO	-	CLEANOUT	OFOI	-	OWNER FURNISHED, OWNER INSTALLED
COND	-	CONDUCTOR			
CONT	-	CONTRACTOR	P	-	PUMP
CTR	-	CENTER	PC	-	PLUMBING CONTRACTOR
CU	-	COPPER	PCF	-	POUNDS PER CUBIC FOOT
CV	-	CHECK VALVE	PD	-	PRESSURE DROP
CW	-	COLD WATER	PH	-	PHASE
CWFU	-	COLD WATER FIXTURE UNITS	PLBG	-	PLUMBING
CWS	-	COLD WATER SOFT	POC	-	POINT OF CONNECTION
			PP	-	POLYPROPYLENE
DD	-	DRAIN DECK	PPH	-	POUNDS PER HOUR
DET	-	DETAIL	PRV	-	PRESSURE RELIEF VALVE
DFU	-	DRAINAGE FIXTURE UNITS	PSF	-	POUNDS PER SQUARE FOOT
DIA	-	DIAMETER	PSI	-	POUNDS PER SQUARE INCH
DIM	-	DIMENSION	PSIA	-	POUNDS PER SQUARE INCH ABSOLUTE
DN	-	DOWN	PSIG	-	POUNDS PER SQUARE INCH GAUGE
DS	-	DOWNSPOUT	PVC	-	POLYVINYL CHLORIDE
DT	-	DRAIN TILE			
DTR	-	DRAIN TILE RECEIVER	RD	-	ROOF DRAIN
DWG.	-	DRAWING	REC	-	RECESSED
DW	-	DISH WASHER	RF	-	ROOF
			RI	-	ROUGH-IN
E	-	EXISTING	RPZ	-	REDUCED PRESSURE ZONE VALVE
EEW	-	EMERGENCY EYEWASH	RV	-	RELIEF VALVE
ELEV	-	ELEVATION			
EM	-	EMERGENCY	S	-	SLOPE
EQUIP	-	EQUIPMENT	SCH	-	SCHEDULE
ES	-	EMERGENCY SHOWER	SH	-	SHOWER
ET	-	EXPANSION TANK	SHT	-	SHEET
ETR	-	EXISTING TO REMAIN	SOG	-	SLAB ON GRADE
EWC	-	ELECTRIC WATER COOLER	SPEC	-	SPECIFICATION
EWH	-	ELECTRIC WATER HEATER	SQ	-	SQUARE
EXST	-	EXISTING	SS	-	SERVICE SINK
			S/S	-	STAINLESS STEEL
F	-	FUTURE	STD	-	STANDARD
FCO	-	FLOOR CLEANOUT			
FD	-	FLOOR DRAIN	T&P	-	TEMPERATURE AND PRESSURE
FFE	-	FINISHED FLOOR ELEVATION	TBR	-	TO BE REMOVED
FLR	-	FLOOR	TD	-	TRENCH DRAIN
FP	-	FIREPROOF	TDFU	-	TOTAL DRAIN FIXTURE UNITS
FPM	-	FEET PER MINUTE	TEMP	-	TEMPERATURE
FPS	-	FEET PER SECOND	TOP	-	TOP OF PIPE
FS	-	FLOOR SINK	TOS	-	TOP OF SLAB
F&T	-	FLOAT AND THERMOSTATIC	T STAT	-	THERMOSTAT
FT	-	FEET	TWFU	-	TOTAL WATER FIXTURE UNITS
FTG	-	FOOTING	TYP	-	TYPICAL
FU	-	FIXTURE UNITS			
			UNO	-	UNLESS OTHERWISE NOTED
G	-	GAS			
GAL	-	GALLON	V	-	VENT
GC	-	GENERAL CONTRACTOR	VB	-	VACCUM BREAKER
GPM	-	GALLONS PER MINUTE	VB	-	VALVE IN BOX
GPH	-	GALLONS PER HOUR	VTR	-	VENT THRU ROOF
HB	-	HOSE BIBB	W	-	WASTE
HD	-	HUB DRAIN	W/	-	WITH
HP	-	HORSE POWER	W/O	-	WITHOUT
HVAC	-	HEATING, VENTILATING & AIR CONDITIONING	WHA	-	WATER HAMMER ARRESTOR
HW	-	HOT WATER	WCO	-	WALL CLEANOUT
HWFU	-	HOT WATER FIXTURE UNITS	WC	-	WATER CLOSET
HWR	-	HOT WATER RETURN	WF	-	WASH FOUNTAIN
			WH	-	WATER HEATER
ID	-	INSIDE DIAMETER	WM	-	WASHING MACHINE
IE	-	INVERT ELEVATION	WSFU	-	WATER SUPPLY FIXTURE UNITS
IN	-	INCHES	WG	-	WATER GAUGE
KO	-	KNOCK-OUT	YCO	-	YARD CLEAN OUT

PIPE FITTINGS

- FLANGE
- UNION
- ANCHOR
- PIPE GUIDE
- TEE BRANCH
- LINE CONTINUATION BREAK
- PLUMBING FIXTURE STOPS
- PIPELINE STRAINER
- ELBOW DOWN
- ELBOW UP
- TEE DOWN
- TEE UP
- PIPE CAP
- VALVE IN VERTICAL
- DOUBLE WYE
- WYE
- WYE WITH VENT UP

PIPING SYSTEM LABELS

WATER PIPING SYSTEMS:

- COLD WATER
- HOT WATER
- HOT WATER RETURN
- NP — NON-POTABLE WATER
- F — FIRE PROTECTION

WASTE AND VENT SYSTEMS:

- CWV — CLEARWATER VENT
- CWW — CLEARWATER WASTE
- OD — OVERFLOW DRAIN LINE
- ST — STORM
- SSD — SUBSOIL DRAIN LINE
- UNDERFLOOR FOR WASTE OR SOIL, SUBSOIL, STORM & FORCE MAIN
- SANITARY VENT
- SAN — WASTE OR SOIL LINE

SITE PIPING SYSTEMS:

- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATER LINE

DENTAL PIPING SYSTEMS:

- CA — COMPRESSED AIR
- VAC — VACUUM

NOTE:
(X) PRIOR TO SYSTEM TYPE DENOTES EXISTING PIPING
(F) PRIOR TO SYSTEM TYPE DENOTES FUTURE PIPING

DRAINS AND CLEANOUTS

- FLOOR DRAIN
- FLOOR SINK
- ROOF DRAIN
- HUB DRAIN
- FIXTURE WASTE TRAP
- CO — CLEANOUT
- FCO — FLOOR CLEANOUT

PIPE VALVES AND SPECIALTIES

- ANGLE VALVE
- BALANCING VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DRAIN VALVE
- GAS SHUTOFF VALVE
- GATE VALVE
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- HB — HOSE BIBB AND WALL HYDRANT
- WATER HAMMER ARRESTOR
- PRESSURE RELIEF VALVE
- SOLENOID VALVE

REFERENCE SYMBOLS

- 1 / P200 — DETAIL REFERENCE. TOP DESIGNATES DETAIL NUMBER BOTTOM DESIGNATES SHEET NUMBER
- 1 / P200 — SECTION REFERENCE. TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER
- ELEVATION SYMBOL
- VP / 1 — EQUIPMENT NAME AND NUMBER
- 1 — PLAN NOTE NUMBER
- 1 — REVISION NUMBER
- POINT OF CONNECTION

PLUMBING DRAIN AND CLEANOUT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
FD-1	ZURN	Z415-B	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SQUARE NICKEL BRONZE TOP.
FS-1	ZURN	Z415-B	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SQUARE NICKEL BRONZE TOP.
FCO	ZURN	Z1400-BP	CAST IRON BODY, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND GAS AND WATER-TIGHT ABS TAPERED BRONZE PLUG (USE IN FINISHED AREAS).
YCO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG. PROVIDE WITH FROST SLEEVE AND HEAVY DUTY WATER TIGHT TOP.
WCO	ZURN	Z1468	ROUND STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW, BRONZE RAISED HEX HEAD PLUG.
CO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG.

PLUMBING EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
WH-1	A.O. SMITH	DEL-30	30 GALLON ELECTRIC WATER HEATER, 2 ELEMENT SIMULTANEOUS OPERATION, 4500/4500 WATT ELEMENT, 240 VOLT, SINGLE PHASE. MOUNT ON WALL ABOVE MOP BASIN.
RPZ-1	WATTS	009	2" REDUCED PRESSURE ZONE BACKFLOW PREVENTOR, CAST BRASS CONSTRUCTION, REPLACEABLE POLYMER CHECK SEATS, REMOVABLE STAINLESS STEEL RELIEF VALVE SEATS. PIPE DISCHARGE TO DRAIN PIT.

PLUMBING FIXTURE SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
SK-1	ELKAY	CHBSB1716C	WALL HUNG, TYPE 304 STAINLESS STEEL, 16"X17" WITH BACKSPLASH, COMPLETE WITH LKB400 CHROME PLATED GOOSENECK FAUCET WITH AERATOR
SK-2	ELKAY	WNSF8345L WELDBILT TRIPLE COMPARTMENT SCULLERY SINK	#14 GUAGE, TYPE 304 STAINLESS STEEL, 3-COMPARTMENT SCULLERY SINK, FULL 8" HIGH BACKSPLASH, INTEGRATED DRAIN BOARDS ON LEFT, EXPOSED SURFACED POLISHED TO A SATIN FINISH. SINK SUPPORTED ON (4) LK251 STAINLESS STEEL LEGS, 1-5/8" O.D. TUBULAR LEGS, #16 GUAGE WALL THICKNESS.
	T&S BRASS	B-3940	3-1/2" SINK OPENING, 2" DRAIN OUTLET WITH TWIST DRAIN, CAST BRONZE BODY,
	ELKAY	LK940HA10T6H	TWO HOLE, DUAL HANDLE, WALL MOUNT FAUCET, ½" INLETS, SOLID BRASS CONSTRUCTION, CHROME FINISH, 2.2 GPM VR AERATOR, SWING SPOUT WIT 6" WRIST BLADE HANDLES
HB-1	WOODFORD	MODEL 67	EXTERIOR FREEZLESS WALL HYDRANT, AUTOMATIC DRAINING, BACKFLOW PROTECTION, WITH INTEGRAL VACUUM BREAKER, 3/4" HOSE THREAD NOZZLE AND LOOSE TEE KEY.
HB-2	WOODFORD	MODEL 25	EXTERIOR FREEZLESS WALL HYDRANT, AUTOMATIC DRAINING, BACKFLOW PROTECTION, WITH INTEGRAL VACUUM BREAKER, 3/4" HOSE THREAD NOZZLE AND METAL HANDLE.
EEW/SH-1	ACORN	S1310	PEDESTAL MOUNTED COMBINATION SHOWER/EYEWASH STATION, PLASTIC BOWL, STAY-OPEN 1/2" BALL VALVE WITH PUSH HANDLE, PLASTIC SHOWERHEAD AND 1" STAY-OPEN BALL VALVE WITH PULL ROD, 20 GPM SHOWERHEAD.
MB-1	CRANE/FIAT	MSB-2424	MOLDED STONE 24" x 24" x 10" HIGH MOP SERVICE BASIN AND 3" INTEGRAL DRAIN.
		1453-BB	FLAT STAINLESS STEEL STRAINER.
		E-77-AA	VINYL BUMPER GUARDS ON ALL EXPOSED SIDES.
		830-AA	POLISHED CHROME SERVICE SINK FAUCET WITH INTEGRAL STOPS.
		E27	SPOUT OUTLET VACUUM BREAKER.

PLUMBING EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
GT-1	ROCKFORD	GF-2420-M	PROVIDE ALL WELDED, STEEL CONSTRUCTION, EPOXY COATED, OR WITH 30 GPM FLOW CAPACITY, 31 GALLON LIQUID CAPACITY. FURNISH WITH STANDARD 3" OUTLET LOCATION AND FLOW RESTRICTORS, ½" NON-SKID DIAMOND TREAD-PLATE COVER FOR FLUSH IN FLOOR INSTALLATION SUITABLE FOR PEDESTRIAN TRAFFIC, HEAVY DUTY LEAK PROOF GASKET..

CALCULATIONS FOR GREASE INTERCEPTORS
GT-1: GREASE INTERCEPTOR CALCULATION -
3- COMPARTMENT SINK

(3) COMPARTMENT:
COMPARTMENT SIZES 24" x 15" x 14"

$\frac{L \times W \times D}{231} \times .75 = \frac{3[24" \times 15" \times 14"]}{231} \times .75 = 49.1$

CAPACITY OF GREASE INTERCEPTOR SIZED AT 28"X21"X14".
INTERCEPTOR CAN HANDLE A 31 GALLON STATIC CAPACITY WITH A MAXIMUM FLOW RATE 25 GPM LIQUID CAPACITY.
MAX GREASE CAPACITY - 90 LBS

WATER SUPPLY CALCULATION

USING THE FORMULA, FIND THE PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

$$A = \frac{B-(C+D+E)X100}{F}$$

WHERE:

A. 32.6 PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

B. 56.0 AVAILABLE PRESSURE AT THE CONTROL VALVE.

C. 15.0 PRESSURE NEEDED AT CONTROLLING FIXTURE.

D. 2.60 DIFFERENCE IN ELEVATION BETWEEN WATER METER AND CONTROLLING FIXTURE IN FEET 6 X .434 PSI/FT

E. 12.0 PRESSURE LOSS DUE TO WATER SOFTENERS, WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS, AND BACKFLOW PREVENTORS. CONVENTIONAL WATER HEATERS USUALLY DO NOT HAVE A PRESSURE LOSS.

F. 81 DEVELOPED LENGTH FROM WATER METER TO CONTROLLING FIXTURE IN FEET 54 X 1.5.

WITH PRESSURE AVAILABLE FOR UNIFORM LOSS, GO TO APPLICABLE TABLE FOR DISTRIBUTION SIZING.

PLUMBING SHEET INDEX

WTI
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#12408.01

GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI

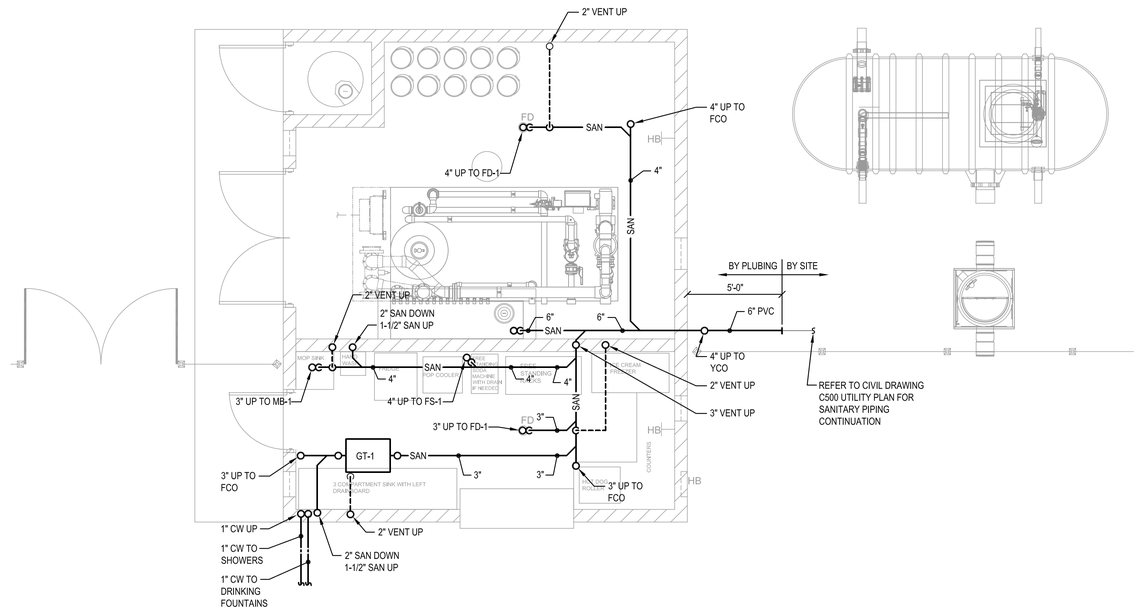
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	MHS
CHECKED BY	RAK
PHASE	BID DOCUMENTS

PLUMBING SYMBOLS, ABBREVIATIONS, SCHEDULES AND SHEET INDEX

P000

Date: Tuesday, June 11, 2013 Plotted by: Selm, Marcin H. Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\00\P000.dwg



1 P100 **PLUMBING BELOW FLOOR PLAN**

SCALE: 1/4"=1'-0"

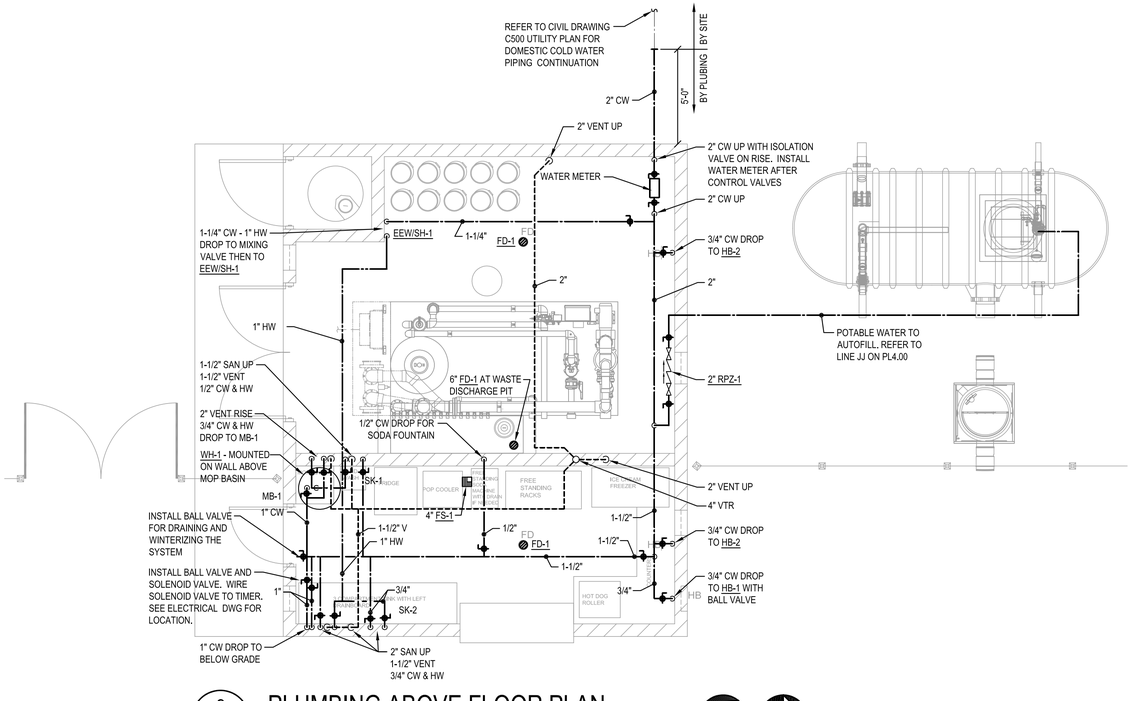
TRUE NORTH PLAN NORTH

NOTES:

1. ALL UNDERGROUND PIPING TO BE INSTALLED PER PLANS.

2. RUN ABOVE GROUND LINES TO ALL FIXTURES WITHIN WALLS AND STUB OUT AND CAP FOR FUTURE CONNECTIONS. DOMESTIC WATER TO HAVE ALL WALL SHUT-OFF VALVES INSTALLED. (PROVIDE ALTERNATE PRICING FOR FIXTURES INSTALLATION)

3. PLUMBING FIXTURES TO BE SUPPLIED BY CLIENT (PROVIDE ALTERNATE PRICING FOR P.C. TO PURCHASE FIXTURES, TRAPS, FAUCETS AND ASSOCIATED MATERIALS TO COMPLETE CONNECTIONS TO STUB-OUTS DESCRIBED ABOVE)



2 P100 **PLUMBING ABOVE FLOOR PLAN**

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

WTI
WATER TECHNOLOGY INC.

100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

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5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI

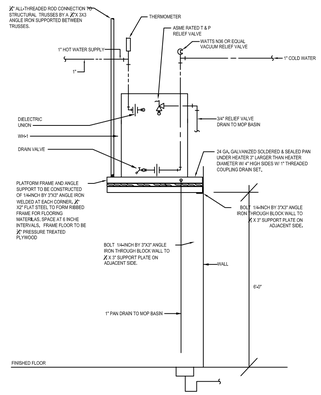
ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	MHS
CHECKED BY	RAK
PHASE	BID DOCUMENTS

PLUMBING FLOOR PLAN AND DETAILS

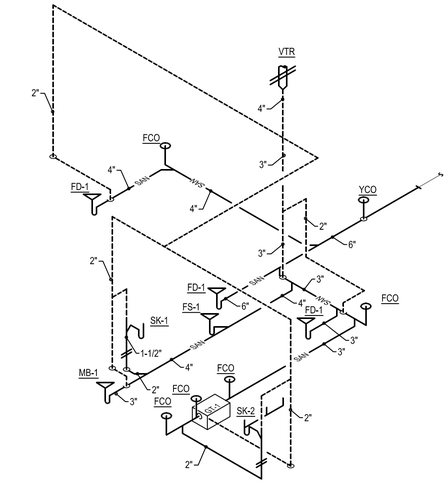
P100

Date: Tuesday, June 11, 2013 Plotted by: Selm, Marcin H. Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\00\P100.dwg



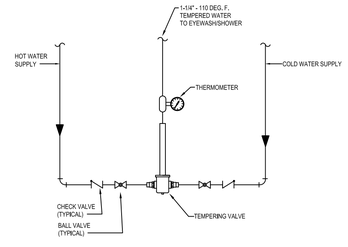
3 P200 **WATER HEATER WALL FRAME DETAIL**

SCALE: NONE



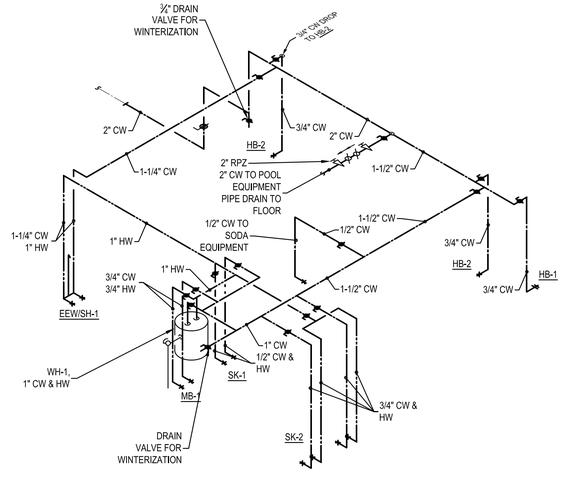
1 P200 **SANITARY WASTE AND VENT RISER DIAGRAM**

SCALE: NONE



4 P200 **MIXING VALVE DETAIL**

SCALE: NONE



2 P200 **DOMESTIC WATER RISER DIAGRAM**

SCALE:

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WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

GRAEF
5126 West Terrace Drive,
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PLUMBING RISER DIAGRAMS

P200

Date: Tuesday, June 11, 2013 Plotted by: Selm, Marcin H. Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\00\P200.dwg

UTILITY TRENCH EXCAVATION, BACKFILL AND COMPACTION

PART 1 - GENERAL

REFERENCES
ASTM International (American Society for Testing and Materials)
ASTM C518 - Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
ASTM C578 - Specification for Rigid, Cellular Polystyrene Thermal Insulation.
ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft.-lbf/ft3.

PART 2 - PRODUCTS

BEDDING AND BACKFILL MATERIALS
Crushed Stone Backfill: Type A1.
Site Excavated Material (Spoil) Backfill: Type S1.
Verify fill materials to be reused are acceptable.

PART 3 - EXECUTION

SITE VERIFICATION AND FIELD MEASUREMENTS
Verify that survey benchmark and intended elevations for the Work are as shown on Drawings.

SAWING AND BREAKING PAVEMENT
Saw concrete pavement, slabs, or bases to a minimum 1/2 of depth of existing pavement, slab, or base prior to removal.
Saw Cut full depth before removal.
Cut pavements evenly along edges of excavation prior to their removal in such a way as to avoid excessive removal or ragged, uneven edges.
Contractor shall be solely responsible for any damage caused thereby.

PREPARATION
Maintain and protect existing utilities remaining, which pass through work area.
Protect above and below grade utilities that are to remain.
Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type A9 fill and compact to density equal to or greater than requirements for subsequent backfill material.

TRENCH EXCAVATION
Excavate subsoil required for installation of utility.
Excavate trenches at top of pipe to a maximum width based on dimension of outside diameter of pipe plus 24 inches to enable installation of pipe and to allow inspection.
Width at top of pipe may be increased with prior approval of Engineer/Architect to allow for stringers and sheathing when required.
Provide pipe laid in open-cut trench with 6-inch minimum clearance between outside face of pipe barrel and face of sheathing or sidewall of trench.
Maximum width of trench at ground surface shall not exceed width of trench at top of pipe by more than 2 feet without prior request to Engineer/Architect, unless it is specifically allowed on Drawings.
Place excavated material stored along trench excavation a minimum distance back from edge of trench. Determine distance by angle of repose of trench material to prevent surcharging of trench wall material leading to potential shearing of trench wall and collapse of trench.
Contractor shall immediately remove and dispose of excavated material which is not to be used as trench backfill, unless directed otherwise by Contract Documents.
Contractor shall maintain all finished excavations free of water or sewage during Work.
Hand trim excavation. Remove loose matter.
Correct unauthorized excavation and over-excavated areas at no cost to Owner.

TRENCH BEDDING
Keep trench bottom free of water prior to placement of bedding and laying of pipe.
Place and shape bedding material to pipe, to a minimum depth of three inches under bell and four inches under spigot and compact to 95 percent modified Proctor density.
Support pipe during placement and compaction of bedding material.
Bring bedding and cover material over top of pipe to a minimum compacted depth of 12 inches, compact to specified density.
Where sand is used for cover material, compact sand with portable plate compactor to a depth of twelve inches in two lifts of six inches each for initial cover over pipe.

TRENCH BACKFILLING
Backfill trenches with materials and to contours and elevations shown on Drawings.
Place specified backfill in loose lift layers. Use compaction equipment that will achieve desired compaction requirements.
Systematically backfill to allow for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
Employ a placement method that does not disturb or damage pipe in trench.
Maintain optimum moisture content of backfill materials to attain required compaction density.
Remove surplus backfill materials from site.
Leave fill material stockpile areas completely free of excess fill materials.

MECHANICAL COMPACTION
Mechanically compact backfill by means of a tamping roller, sheepsfoot roller, pneumatic tire roller, vibrating roller, or other mechanical tampers. Impact, free-fall, or "stomping" type compaction equipment shall not be allowed.
Flooding or jetting of backfill for compaction purposes shall not be allowed.
Place material for mechanically compacted backfill in lifts, which, prior to compaction, shall not exceed thickness specified below for type of compaction equipment used:
Vibratory equipment including vibratory plate, vibratory smooth-wheel rollers, and vibratory pneumatic-tired rollers: maximum lift thickness two (2) feet.
Rolling equipment, including sheepsfoot (both vibratory and non-vibratory), grid, smooth-wheel (non-vibratory), pneumatic-tired (non-vibratory), and segmented wheels: maximum lift thickness one (1) foot.
Hand-directed mechanical tampers: maximum lift thickness of six (6) inches.

TOLERANCES
Top Surface of Backfill: Plus or minus one inch from required elevations.

PLUMBING SYSTEM OUTLINE SPECIFICATION

PART 1 - GENERAL

SCOPE
Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

Plumbing includes interior sanitary waste and vent, storm/clearwater drainage, subsoil/foundation drain, and domestic water supply. This section includes the following topics:

PART 1 - GENERAL
- Scope
- General Provisions
- Unit Prices
- Asbestos Abatement
- Demolition
- Occupancy Requirements
- Design Criteria
- System Descriptions

PART 2 - PRODUCTS
- Sanitary Drain and Vent
- Domestic Water Distribution
- Insulation
- Plumbing Fixtures
- Plumbing Equipment

PART 3 - EXECUTION
- General
- Sanitary and Vent Systems Installation
- Water Piping System Installation

The contractor shall follow Architectural plans and scope documents for type of systems, materials and equipment to use.

The scope documents, along with local regulations and codes, shall be the basis for the plumbing design and construction.

The contractor shall calculate, size and select systems as defined by the scope documents. This shall include coordination with other trade contractors.

GENERAL PROVISIONS
The plumbing systems shall be designed and installed in conformance with Illinois Plumbing Code and Local Requirements.

Fees, permits and inspections shall be obtained and paid for. Included are fees for water and sanitary sewer utilities. Impact fees shall be coordinated with and be paid for by the Owner.

Submit the quantity of shop drawings as specified by Architect. Include wiring diagrams of electrically powered equipment.

Submit shop drawings for materials and equipment prior to ordering/purchasing any materials. Allow ample time for review and coordination with other divisions of work.

Submit materials, fixtures, and equipment for record purposes and for operation and maintenance manual preparation. Provide the Owner with (2) hard cover ring type binders entitled "Operating and Maintenance Manual" for materials, fixtures, and equipment used on the project.

At the completion of the project, the contract drawings shall be adjusted to become accurate as-built drawings. Tracings and AutoCAD files of the as-built drawings shall be turned over to the Owner's representative.

Verify the location and size of existing plumbing services which are relevant to the installation of new services.

Bear costs to cut and patch walls, floors, roof, and ceiling affected by new plumbing work.

Work shall be warranted for one year after date of acceptance.

Coordinate electrical connections and power and control wiring requirements.

Keep premises free from waste materials.

Pipe sleeves or openings shall be set for pipes passing through new masonry or concrete walls and floors. Sleeves for piping at exterior penetrations above and below grade shall be Schedule 40 black steel pipe and shall extend through the construction. Provide flanges for supporting sleeves through existing construction as applicable.

The annular space between drilled or sleeved holes and pipes passing through exterior walls or below grade foundation walls shall be sealed with a "Link_Seal" as manufactured by the Thunderline Corporation. "Link_Seal" shall consist of ASTM D2000 EPDM rubber compound interlocking links, Delvin pressure plates and corrosion resistant fasteners. Provide schedule 40 pipe sleeve with anchor collar at wall penetration.

Coordinate the location of sleeves, openings, chases, and furred spaces with the other Contractors. Provide sleeves, hangers and inserts that are to be built into the structure during the progress of construction.

Sleeves shall extend 1 inch above the finished floor. In mechanical rooms and other areas where water may accumulate, sleeves shall extend 2 inches above the finished floor.

Grout openings through concrete or masonry, including space between sleeves and walls of floors, with Dow 8640 or 8641 sealant.

Piping penetrating smoke or fire separations shall not violate the integrity of the separation. Where penetrations occur through fire rated walls or floors, "Link_Seal Pyro_Pac" shall be used, which is rated for 3 hour fire resistance by ASTM E_119_76. "Pyro-Pac" shall consist of two individual sealing units consisting of fire_resistant silicon links, steel pressure plates, and corrosion resistant fasteners.

The space above suspended ceilings may be return plenum to move air to the Air Handling Units. Properly protect plastic and other combustible materials installed in the plenum space.

Provide pipe hangers or strut connected to structural elements to support piping.

Identify piping systems with labels or stencils. Include valve tags for shutoff valves.

Excavate trenches for installation of piping.

Provide 6 inches of sand or pea gravel for pipe bedding. Backfill around pipe to 12 inches above pipe with sand or pea gravel.

Refer to to Utility Trench Excavation, Backfill and Compaction spec section. Backfill trenches with sand or gravel to rough grade elevation under paved surfaces. Backfill trenches with common excavation material for areas with grass.

When trenching extends beyond construction limit lines, restore surface to original condition.

When replacing concrete, install dowels using #5 rebar in all areas where concrete demolition has occurred.

UNIT PRICES
When submitting costs for the project, provide a list of man hour rates. These rate prices shall reflect the cost the contractor shall either add or deduct from his base price. The Owner shall decide to install or delete plumbing fixtures or equipment and their associated piping on an individual basis.

ASBESTOS ABATEMENT
Asbestos abatement shall be by the GC. If asbestos is encountered, the Contractor shall notify the GC. The GC shall properly remove the asbestos material so the Contractor can continue his work.

DEMOLITION
Where piping is removed and not reconnected with new work, ends of existing services shall be capped as if they were new work.

Plumbing contractor shall identify piping, fixtures, and equipment for removal by demolition contractor. Pipe, fixtures, equipment, and associated insulation and similar items demolished, abandoned, or deactivated shall be removed from the site except as noted otherwise by the Owner. Designated equipment shall be turned over to the Owner for their use at a place and time so designated. The condition of material, fixtures, and equipment that is to be reused shall be maintained to that existing before work began.

OCCUPANCY REQUIREMENTS
Verify the planned occupancy and phasing of the building prior to design and construction. Pricing shall reflect these requirements to the extent that plumbing systems must be installed, located, segregated, operational, or planned to reflect phasing and partial occupancy requirements.

DESIGN CRITERIA

SANITARY DRAIN AND VENT

Minimum Slope: 1/4 in/ft (through 2 inch pipe)
1/8 in/ft (3 inch and greater pipe) Minimum Velocity: 2 feet/sec

DOMESTIC WATER

Uniform Pressure Loss Method of Sizing.
Maximum Velocity: 8 ft/sec
Maximum Pressure: 80 lb/in2
Hot Water System Temperature: 120°F

SYSTEM DESCRIPTIONS

SANITARY DRAIN AND VENT
Provide a gravity drainage system for waste discharge from plumbing fixtures and floor drains. The various fixture drains shall collect in the existing building drain that slopes the south corner exterior wall out of the building to connect with the sanitary lateral from the municipal sanitary sewer in the street.

Provide a sanitary vent system to protect the traps. The vents shall connect to a header pipe and terminate through the roof at various locations and connect into existing header pipes at various locations.

WATER DISTRIBUTION
Connect a domestic line to the existing 2" domestic cold water service ran within the building at various locations. Distribute domestic cold water using a horizontal distribution system at the ceiling structural joists. Connect cold water to water heaters, plumbing fixtures, and equipment. Provide cross connection prevention devices for each connection.

Hot water shall be generated in electric water heaters on each level. The water heater shall be located in the Janitor's Closet. Distribute hot water to the lavatories and janitor receptor sink.

PART 2 - PRODUCTS

SANITARY DRAIN AND VENT

PIPE AND FITTINGS
Cast iron, soil or no-hub, service weight, ASTM A74 or CISPI 301, with rubber gasket ASTM C564.

PVC, Schedule 40, ASTM D-1784 or cellular core, ASTM F-891 with PVC_DWV socket fittings, ASTM D_2665 with PVC solvent cement, ASTM D-2564. (NOTE:PVC is not allowed in return air plenums - follow local building code for use above floor)

DRAINS AND CLEANOUTS
By Josam, J.R. Smith, Sioux Chief, Wade, Watts, or Zurn. Refer to Plumbing Equipment Schedule on drawings for specific items.

TESTING
Hydrostatic test sanitary piping to 10 feet water column with no leaks.

WTI
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5126 West Terrace Drive,
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608 / 242 1550
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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION

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PLUMBING SPECIFICATIONS

P900

Date: Tuesday, June 11, 2013 Plotted by: Selm, Marcia H. Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\001P900.dwg

DOMESTIC WATER DISTRIBUTION

PIPE AND FITTINGS

WATER SERVICE
Ductile iron pipe, mechanical or push on joint, thickness class 53 conforming to AWWA C-151 with standard thickness cement mortar lining AWWA C-104; ductile iron or gray iron mechanical joint cement mortar lined fittings, Class 250, AWWA C110; ductile iron restrained joint compact fittings, class 350, AWWA C-153; rubber gasket joints with non-toxic gasket lubricant, AWWA C-111. Joints shall have ASTM A506 steel clamps and straps for restraints with ASTM A307 steel bolts and ASTM A575 steel rods.

Cast iron water pipe conforming to AWWA C106_75 with cast iron fittings conforming to AWWA C110_77 standards.

PVC plastic pipe, Class 100 (DR 25) conforming to AWWA C900. Provide Class 150 (DR 18) or Class 200 (DR 14) as dictated by municipal water supplies.

Optional Material for Piping 2-inch and Smaller:
Seamless copper water tube, (ASTM B88), Type K, annealed (soft) with cast brass flared fittings (ASTM B62).

Valves For Water Service:
Valves for water service and street main shall have ends suited or adaptors shall be provided for proper installation in the lines. Valves shall meet local municipal standards or in the absence of standards the following requirements:

Valves three_inches and larger shall be iron body, bronze mounted, double disc, gate valves conforming to FS WW_V_58B Type I, Class I, or AWWA C500. They shall open in the same direction as those used by the local water department. Valve stems shall terminate in 2-inch wrench nuts. Furnish two keys.

Service Valve Box:
Valve boxes shall meet local standards or in the absence of local standards shall comply with the following requirements. Boxes shall be approved "Buffalo Pattern", cast iron (ASTM A48, Class 20), adjustable shaft type, finished with two coats of coal_tar mastic. The lids of boxes shall bear the work "Water" or the letter "W". Furnish two keys for bolt in service box lids.

Pipe Covering:
Cover ferrous pipe, fittings and valves with loose covering of 8-mil thick, black polyethylene film, ASTM C105, Class C, secured with polyethylene tape.

Interior Above Ground:
Copper tube, Type L, hard temper, ASTM Specification B88, Wrought copper sweat fittings and 95/5 solder joints tin_antimony, or other lead free solder.

Wrought copper or cast bronze fittings, grooved ends, joined with mechanical couplings, rubber gasket seal, Victaulic style 606.

Copper press fittings, ASTM B16.18 or ASTM B16.22, EPDM O-ring by Viega.

COMPRESSED AIR AND VACUUM PIPING
Copper tube, Type L, hard temper, ASTM Specification B88, Wrought copper sweat fittings and 95/5 solder joints tin_antimony, or other lead free solder.

SHUTOFF VALVES
Ball valve, bronze body, two piece, conventional port, Nibco, Series 585.

BALANCING VALVES
Bell & Gossett "Circuit Setter" bronze body balancing valve with sweat or threaded ends, calibrated brass orifice, integral adjustment knob with calibrated scale, memory stop indicator, drain tapping and differential pressure metering connections.

CHECK VALVES
Swing check, bronze body, resilient seat, Nibco, Series 413.

WATER PRESSURE REDUCING VALVES
Bronze body, diaphragm operated, with an integral thermal expansion bypass valve, inlet union, stainless steel strainer, renewable monel or stainless steel seat, and adjustable reduced pressure range, 300 psig at 160 degrees F. Pre-set for scheduled pressure.

A. W. Cash, Conbraco, Watts, Wilkins Or Substitutions to be approved before submitting bids.

TESTING
Test water piping before connecting fixtures with hydrostatic pressure of 100 psi without loss of pressure for at least two hours.

DISINFECTING
Provide chlorine disinfecting. Test for presence of disinfecting agent at remote locations to ensure the disinfecting agent has reached throughout the domestic water systems. Other disinfecting methods may be used with prior approval of the Architect and local authorities.

Test for bacteria after disinfecting and domestic water system is flushed.

WATER HAMMER ARRESTORS
ASSE 1010; sized in accordance with PDI WH-201, precharged piston type construction of hard drawn Type K copper, threaded bass adapter, brass piston with o-ring seals, FDA approved silicone lubricant, suitable for operation in temperature range 35 to 150 degrees F, maximum 250 psig working pressure, 1500 psig surge pressure. Watts series 15.

PPP Industries, Sioux Chief Manufacturing Company, Tyler Pipe/Wade Division, Watts Water Technologies or approved equal prior to submitting bids.

TRAP PRIMER VALVES
Bronze body, O-ring seals, integral threaded outlet vacuum breaker, adjustable, in conformance with ANSI/ASSE 1018.

Ancon - Watts Water Technologies, PPP Industries, Jay R. Smith Manufacturing Company, Tyler Pipe/Wade Division, or approved equal prior to submitting bids.

INSULATION
Insulate horizontal storm piping above ground. Insulate domestic water piping.

Insulate traps and supplies on ADA lavatories and sinks.

ACCEPTABLE MANUFACTURERS
Armstrong, Halstead , Johns-Manville, Knauf, or Owens_Corning.

GLASS FIBER INSULATION
Manville Micro-Lok meeting ASTM C547; rigid molded, non-combustible, "K" Value: 0.23 at 75°F, maximum service temperature: 850 F, with vapor Retarder Jacket: AP-T Plus White Kraft paper reinforced with glass fiber yarn and bonded to aluminum foil, secure with self-sealing longitudinal laps and butt strips or AP Jacket with outward clinch expanding staples or vapor barrier mastic as needed.

Connection:
Waterproof vapor retarder adhesive; Halstead Contact Adhesive.

UV-Protection:
Outdoor protective coating; Armstrong Protective Coating.

MINIMUM INSULATION THICKNESS

	PIPE SIZE			
SYSTEMS	1" OR LESS	1 ¼" TO 2"	2 ½" TO 4"	5" AND UP
Storm Drain	---	---	1"	1"
Domestic Cold Water	½"	½"	1"	1"
Domestic Hot Water	1"	1"	1-½"	1-½"
Domestic Hot Water Return	1"	1"	1-½"	1-½"

Insulate domestic water supply piping and P-trap below lavatory and exposed sinks to provide handicapped accessibility.

PLUMBING FIXTURES
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

EMERGENCY EQUIPMENT
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

DRAINS, TRAPS, STOPS, AND SUPPLIES
Brass Craft, Chicago Faucet, Dearborn, EBC, Keeney, Kohler, McGuire, or Zurn. Substitutions to be approved before submitting bids.

BACKFLOW PREVENTION DEVICES
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

PLUMBING EQUIPMENT
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

WATER HEATERS :
Natural Gas:
Instantaneous type, gas-fired, insulated and jacketed, T&P relief valve, drain valve manufactured by Rinnia or equal.

Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure-temperature relief valve of size to relieve total BTU input of the coil.

CIRCULATING PUMP
Pump shall be manufactured by Armstrong, Bell & Gossett, Taco, or Thrush.

Pump shall be 120 volt, single phase, 3450 RPM, in_line bronze pump, with brass impeller.

Time Control:
Time controls shall be manufactured by Paragon Electric Co. or equivalent. Provide a 120 VAC electronic programmable time controller for each circulating pump. Unit shall include seven day, 365 day per year programmable features and rechargeable battery backup; Paragon Electric Co. model number EC72.

Motor Starter:
Starters shall be manufactured by Allen_Bradley, Cutler-Hammer, G.E., or Square D. Provide a single phase manual motor starter switch for starting and controlling each pump, with internal overload protection, general purpose enclosure, neon pilot light and HAND-OFF-AUTO selector switch; Allen_Bradley Model 600_TAX142.

WATER SOFTENERS
Manufacturers: Basis of design - Culligan Water Treatment
Amtrol Water Treatment Technologies.
Capital Water Softener, Inc.
CustomCare Water Technologies, Inc
Hellenbrand, Inc.
Water-Right., Inc.
Tanks: Fiberglass reinforced mineral tank constructed of molded high-density polyethylene inner shell reinforced by exterior fiberglass winding and epoxy resin. NSF approved and rated for 150 psig Mount slotted or lateral hub PVC distributor in tank with underbedding gravel
Mineral:High capacity ion exchange mineral, FDA approved, Sybron/Ionac, Rohm & Haas, Resintech, or Puralite. Uniform beads rated for removal of 30,000 grains of hardness as calcium carbonate when regenerated with 15lbs. of salt. Design for minimum 50 percent resin bed freeboard.
Valve: Top mount brass valve with motor drive, hydraulically balanced piston, seal and spacers, adjustable brine flow control, backwash flow control, adjustable capacity, and regeneration settings. Provide bypass ball valve arrangement.
Controls: Factory wired and tested controls with transformer and labeled terminal block for twin alternating consisting of the following.
7-Day Time Clock.
Mechanical Demand Meter Delayed Regeneration.
Mechanical Demand Meter Immediate Regeneration.
Electronic Meter and 480 Microprocessor with LED Display for Delayed Regeneration.
Electronic Meter and 480 Microprocessor with LED Display for Immediate Regeneration.
Systemax Microprocessor Controller with LED Display.

Brine Tank: High density polyethylene brine tank with high salt platform, PVC brine measuring and float valve, PVC injector. Contractor to provide initial salt fill.
Ratings: Maximum 10 MG/L hardness leakage, 110 degrees F maximum operating temperature, 30-100 psig operating pressure, 120/60/1 electrical.
Accessories:Flexible braided stainless steel pipe connectors for tanks over 24-inch diameter. Inlet and outlet sampling valves, inlet and outlet pressure gauges with shutoff valve. Resin defoulant system with chemical metering pump, tubing and 4 month supply of chemical cleaner for iron and bacteria fouling.

PRESSURE TANK
Manufacturer:
Amtrol Well-X-Trol Model WX-456-C

System requires one tank equipped with shutoff valves, drain valves, pressure relief, and air pressure test gauge asymbels.
Tank: Galvanized steel, tested and stamped in accordance with ASME SEC. VIII; pressurized heavy duty butyl diaphragm type with integral floor stand; tapping for installation of piping and accessories:
1. Tank Volume: 422 Gal.
2. Discharge: 3" Discharge

PART 3 - EXECUTION

GENERAL
Install plumbing systems in accordance with Wisconsin Plumbing Code and Local Requirements. Electrical requirements and connections to be coordinated with the Electrical Contractor. Coordinate locations of drains with Mechanical Contractor for condensate piping by Mechanical Contractor.

FACILITY WATER DISTRIBUTION
Install pipe, fittings and joints with reference standards, manufacturer's recommendations, recognized industry practices and required piping as shown on drawing.

In all cases, consult drawings for exact location of pipe spaces, ceiling heights, door and window openings, or other architectural details before installing piping.

Do not route piping through transformer vaults or above transformers, panelboards, or switchboards, including required service space for this equipment, unless piping is serving this equipment.

Maintain minimum required horizontal or vertical, water on top, distance between water piping and sanitary sewer piping per Illinois Uniform Plumbing Code. Where water piping crosses a sanitary sewer, provide minimum required vertical clearance and installation requirements per code.

Perform hydrostatic leak tests, follow recognized industry practices for performing the test.

After installation of all plumbing fixtures prior to occupancy, plumbing contractor to make sure all fixtures are operating properly by simultaneously flush and operating all fixtures valves at once to verify proper operation of facility water distribution system.

SANITARY AND STORM/CLEARWATER DRAIN AND VENT SYSTEMS INSTALLATION
Connect drain and vent piping to each fixture and piece of equipment and install required piping as shown on drawings. Provide necessary fittings and hardware to make required offsets and transitions.

Changes in direction of drainage piping shall be made by the appropriate use of 45 degree wyes, long or short sweep 1/4 bends, 1/6, 1/8, 1/16 bends or combination.

Fittings shall be installed to make for the least possibility of stoppage. Horizontal drainage piping less than 3 inches shall be pitched a minimum of 1/4 inch per foot or run. Piping 3" to 10" shall be pitched a minimum of 1/8" per foot of run.

When running drain piping below a footing and parallel to it, piping shall be at least one foot greater in distance away from footing than below its bottom. Where possible, run sewers at centerpoint between two parallel footings and maintain above mentioned distances at a minimum. When running drain piping under a footing, disturb as little of the soil under footing as possible. Provide concrete fill under footings where excavations wider than 18" are required.

When running drain piping through a footing, provide a steel pipe sleeve with 2" thick minimum compressible wrap.
Verify invert elevations and building elevations prior to installation.
Connect to drains, fixtures, and equipment.
Perform final leak tests per recognized industry practices for performing the test and follow local or state requirements.
After installation of all plumbing fixtures prior to occupancy, plumbing contractor to make sure all fixtures are draining properly by simultaneously flush and operating all fixtures valves at once to verify proper operation of facility sanitary sewerage.
Clean and flush all sewer piping by means of a power sewer snake to street connection.

VENT FLASHING
Vent pipes passing through roof.

DRAINS AND CLEANOUTS
Set floor drains, roof drains, and cleanouts level and plumb adjusted to finished floor elevation or finished wall location. Locate where serviceable. Allow minimum of 18-inc clearance around cleanouts for rodding.

Lubricate threaded cleanout plugs with graphite and oil, teflon tape, or waterproof grease. Install trap primer connections where indicated. Provide deep seal traps on floor drains.

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
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Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com
#12408.01

GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION

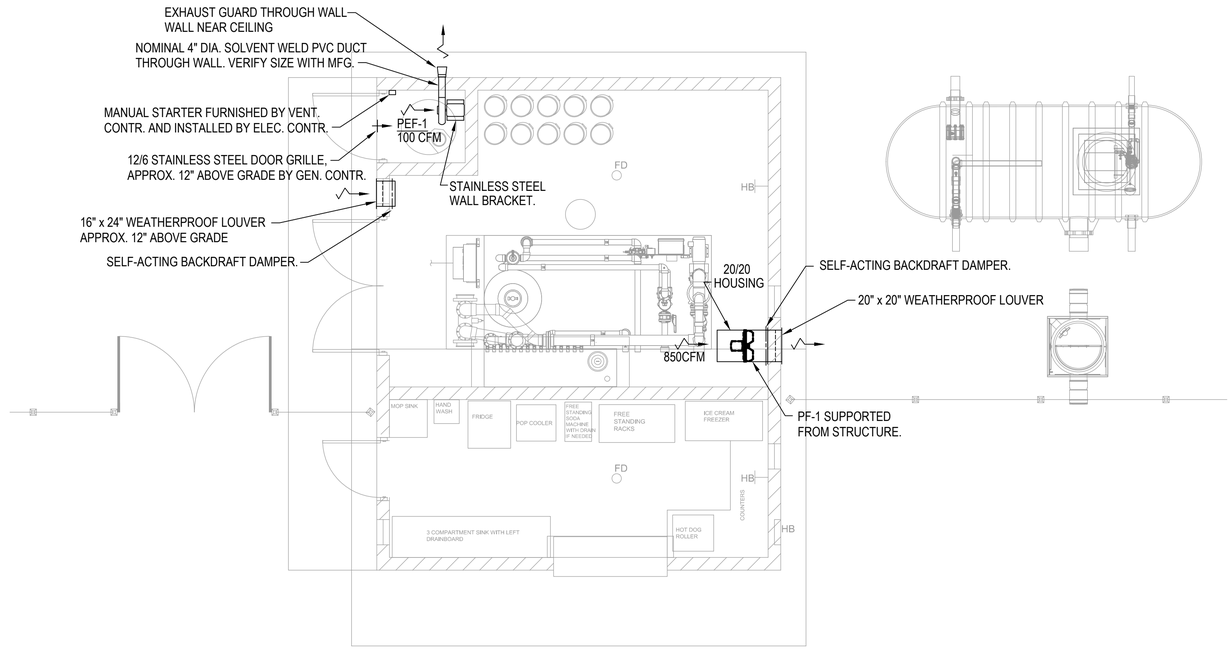
DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	MHS
CHECKED BY	RAK
PHASE	BID DOCUMENTS

PLUMBING SPECIFICATIONS

P901

GENERAL NOTES:

1. PROPELLER FAN (PF-1): GREENHECK MODEL S1-14-440-B6, 850 CFM AT 0.30" WC STATIC PRESSURE, 1/6 HP. 120V/60 HZ/1 PH. UNIT SHALL BE DIRECT DRIVE COMPLETE WITH SELF-ACTING BACKDRAFT DAMPER, AND HOUSING WITH INLET GUARD. THE FAN SHALL RUN CONTINUOUSLY DURING SPLASH PARK OCCUPANCY SEASON. SEE ELECTRICAL DRAWING FOR STARTER.
2. WEATHERPROOF LOUVERS: GREENHECK MODEL EDK-402, ALUMINUM, 4" THICK, DRAINABLE HEAD, K BLADES MINIMUM 54% FREE AREA WITH INSECT SCREEN AND INTAKE SELF-ACTING BACKDRAFT DAMPER.
3. PLASTIC EXHAUST FAN (PEF-1): ,PLASTEC VENTILATION, INC. MODEL 15, 1/4 HP, 120V/60/1 PH, 100 CFM AT 0.20" W. C. STATIC PRESSURE CONSTRUCTED OF ALL HIGH DENSITY POLYPROPYLENE WITH STAINLESS STEEL SUPPORT BRACKETED TO WALL, POLYPROPYLENE EXHAUST GUARD AND MANUAL STARTER (LOCKABLE). TURN STARTER OVER TO ELEC. CONTRACTOR FOR INSTALLATION.



1 / M100 MECHANICAL FLOOR PLAN

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
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Beaver Dam, Wisconsin 53916
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Toll Free: 800.538.8207
Fax: 920.887.7999
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GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
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608 / 242 0787 fax

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CHECKED BY	SDH
PHASE	BID DOCUMENTS

MECHANICAL FLOOR PLAN, DETAILS AND SCHEDULES

M100

Date: Tuesday, June 11, 2013 Plotted by: Heaton, Steve Drawing location: L:\Jobs2013\20132000-01\CAD\Mechanical\dgn\00\M100.dwg

ELECTRICAL SYMBOLS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN DRAWINGS AND MAY NOT APPLY TO CURRENT PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED ON DRAWINGS.

EQUIPMENT AND PANELBOARDS

- TRANSFORMER - PAD MOUNTED
- METER
- CT — CURRENT TRANSFORMER CABINET
- PANELBOARD - SURFACE MOUNTED - (SEE SCHEDULE)

WIRING DEVICES

- DUPLEX RECEPTACLE - MOUNTED 1'-6" AFF, UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE: (D) DEDICATED (DD) DOUBLE DUPLEX (GFI) GROUND FAULT INTERRUPTING (WP) WEATHERPROOF COVER (WR) WEATHER RESISTANT RECEPTACLE
- SPECIAL PURPOSE OUTLET - (X) INDICATES DEVICE IDENTIFICATION (SEE EQUIPMENT SCHEDULE)
- MOTOR CONNECTION - (X) INDICATES MOTOR IDENTIFICATION (SEE EQUIPMENT SCHEDULE)
- DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER BACKSPLASH OR HEIGHT AS NOTED - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)

GENERAL SYMBOLS

- DETAIL REFERENCE - TOP DESIGNATES DETAIL NUMBER - BOTTOM DESIGNATES SHEET NUMBER
- DETAIL COVERAGE AREA
- EQUIPMENT REFERENCE - TOP DESIGNATES EQUIPMENT TYPE: (LP) LIGHTING PANEL (MDP) MAIN DISTRIBUTION PANEL (MSB) MAIN SWITCHBOARD PANEL (PP) POWER PANEL (RC) RELAY CABINET (RP) RECEPTACLE PANEL (T) TRANSFORMER - BOTTOM DESIGNATES EQUIPMENT ID

LINETYPE LEGEND

- ITEMS SHOWN ON PLANS AS THIN, SOLID BLACK LINES ARE EXISTING TO REMAIN
- ITEMS SHOWN ON PROPOSED PLANS AS THICK, DASHED BLACK LINES NEW CONDUIT UNDERGROUND
- ITEMS SHOWN ON PROPOSED PLANS AS THICK, SOLID BLACK LINES ARE NEW
- ITEMS SHOWN ON PLANS AS THIN DASHDOT BLACK LINES ARE FUTURE

RACEWAYS AND BOXES

- J — JUNCTION BOX

TELECOMMUNICATIONS

- TELEPHONE / DATA OUTLET - 4" SQUARE BOX & 3/4" CONDUIT STUB (ROUGH-IN ONLY)

LIGHTING FIXTURES

- SURFACE MOUNTED
- RECESS MOUNTED
- WALL MOUNTED
- SUSPENDED, PENDENT, CHAIN, STEM, OR CABLE HUNG
- POLE MOUNTED WITH ARM
- POST TOP MOUNTED
- IN-GROUND OR IN-FLOOR MOUNTED
- SINGLE HEAD SPOT OR FLOOD
- DOUBLE HEAD SPOT OR FLOOD
- STRIP OR UNDER CABINET
- SURFACE MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
- RECESS MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
- EMERGENCY BATTERY UNIT - DUAL LIGHTING HEADS
- EMERGENCY BATTERY REMOTE - SINGLE LIGHTING HEAD
- EMERGENCY BATTERY REMOTE - DUAL LIGHTING HEADS
- EXIT LIGHT FIXTURE - CEILING MOUNTED - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS
- EXIT LIGHT FIXTURE - END MOUNTED - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS

LIGHTING FIXTURE DESIGNATIONS

- SHADING INDICATES FIXTURE FULLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT
- PARTIAL SHADING INDICATES FIXTURE PARTIALLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT
- A-1b — LIGHT FIXTURE DESIGNATION - (A) INDICATES FIXTURE TYPE (SEE SCHEDULE) - (1) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (b) INDICATES CONTROL DESIGNATION (IF NOT INDICATED, CONTROLLED VIA SWITCH AT ROOM ENTRY)

TYPICAL AT EACH FIXTURE LOCATION:

- ca — CONTACTOR DESIGNATION (SEE SCHEDULE) CONTROLLED VIA CONTACTOR
- dal — DIMMER CHANNEL CABINET DESIGNATION CONTROLLED VIA ELECTRONIC DIMMING SYSTEM
- oa — SPECIFIC DEVICE DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT OCCUPANCY SENSOR CONTROLLED
- ra — RELAY DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT LOW VOLTAGE RELAY CONTROLLED VIA RELAY CABINET
- ta — TIME CLOCK DESIGNATION (SEE SCHEDULE) TIME CLOCK CONTROLLED

LIGHTING CONTROL

- Xa $ — SWITCH - MOUNTED 3'-8" AFF, UOI - (a) INDICATES SWITCH DESIGNATION - SINGLE POLE, UOI - (X) INDICATES SWITCH TYPE: (2) TWO POLE (3) THREE WAY (4) FOUR WAY (DLS) DUAL LEVEL SWITCH (TS) TIMED (P) WITH PILOT LIGHT
- X OS — OCCUPANCY SENSOR - CEILING MOUNTED - (X) INDICATES TYPE (SEE SPECIFICATIONS))
- X — OCCUPANCY SENSOR - WALL MOUNTED 3'-8" AFF, UOI - (X) INDICATES TYPE (SEE SCHEDULE)
- X C — CONTACTOR - (X) INDICATES TYPE (SEE SCHEDULE)
- X T — TIME CLOCK - (X) INDICATES TYPE (SEE SCHEDULE)
- X PC — PHOTOCELL - (X) INDICATES TYPE (SEE SCHEDULE)

PANELBOARD SCHEDULE: RP/A

VOLTAGE:	240/120	MAIN TYPE:	MCB	BUS MATERIAL:	COPPER
PHASE/WIRE:	1P / 3W	MAIN RATING:	400 AMPS	BUS RATING:	400 AMPS
SVC. ENTRANCE LABEL:	YES	TVSS	NO	ENCLOSURE:	NEMA 1
MINIMUM AIC:	22,000 AMPS	FEED-THRU LUGS:	NO	200% NEUTRAL:	NO
IS SERIES RATED ALLOWED:	NO	MOUNTING:	SURFACE	PANELBOARD TYPE:	BRANCH CIRCUIT

CCT #	LOAD TYPE	LOAD DESCRIPTION	VA	TRIP / POLE			TRIP / POLE	VA	LOAD TYPE	LOAD DESCRIPTION	CCT #
1	R	RECEPTACLE	180	20/1	A	A	110/2	8,400	M	SPO1	2
3	R	RECEPTACLE	180	20/1	B	B	X	8,400	M		4
5	L	LIGHTING	280	20/1	A	A	60/2	4,200	M	SPO2	6
7	L	LIGHTING	280	20/1	B	B	X	4,200	M		8
9	L	LIGHTING	94	20/1	A	A				SPACE	10
11	R	RECEPTACLE	180	20/1	B	B				SPACE	12
13	R	RECEPTACLE	180	20/1	A	A	20/1	528	M	PF1	14
15	R	RECEPTACLE	180	20/1	B	B	20/1	696	M	PEF1	16
17	E	SOLENOID VALVE	50	20/1	A	A	50/2	4,750	E	SPO 3	18
19		SPARE		20/1	B	B	X	4,750	E		20
21		SPARE		20/1	A	A				SPACE	22
23		SPARE		20/1	B	B				SPACE	24
25		SPARE		20/1	A	A				SPACE	26
27		SPARE		20/1	B	B				SPACE	28
29		SPARE		20/1	A	A				SPACE	30
31		SPARE		20/1	B	B				SPACE	32
33		SPARE		20/1	A	A				SPACE	34
35		SPARE		20/1	B	B				SPACE	36
37		SPARE		20/1	A	A				SPACE	38
39		SPARE		20/1	B	B				SPACE	40
41		SPARE		20/1	A	A				SPACE	42

ABBREVIATIONS:		PHASE	A	B		TOTAL CONNECTED (VA):	37,528
ST	= SHUNT TRIP		18,662	18,866		TOTAL CONNECTED (A):	156.37
GFCI	= GROUND FAULT CIRCUIT INTERRUPTOR	LOAD TYPE ABBREVIATIONS:				TOTAL DEMAND (VA):	37,528
HACR	= HEATING AND AIR-CONDITIONING RATED	R = RECEPTACLE	M = MOTOR			TOTAL DEMAND (A):	156.37
HB	= HANDLE-BLOCKING DEVICE	L = LIGHTING	LM = LARGEST MOTOR				
		E = EQUIPMENT	K = KITCHEN				

PANEL SCHEDULE NOTES:
1. BREAKERS SHALL BE MARKED IN THE PANEL BY CONTRACTOR
2. CONTRACTOR TO PROVIDE SPARE SINGLE POLE 20 AMP BREAKERS (LEFT SIDE OF PANELBOARD ONLY), RIGHT SIDE SPACES MAY BE LEFT

ELECTRICAL SHEET INDEX

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
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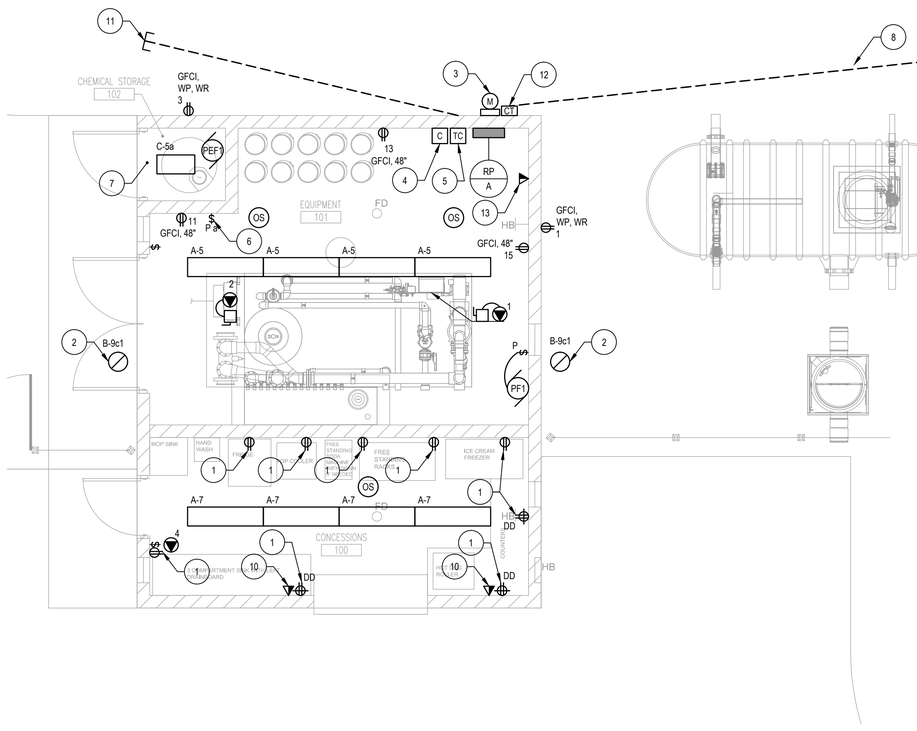
ELECTRICAL SYMBOLS, SCHEDULE AND SHEET INDEX

E000



1 E100 ELECTRICAL FLOOR PLAN

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

GENERAL NOTES:

1. ALL CIRCUITS TO BE FED FROM PANEL "RP/A", UNLESS OTHERWISE INDICATED. SEE PANEL SCHEDULE FOR FURTHER DETAILS.
2. NO MULTI WIRE BRANCH CIRCUITS ALLOWED, EACH BRANCH CIRCUIT REQUIRES A SEPARATE NEUTRAL.

SHEET NOTES:

1. PROVIDE ROUGH IN ONLY. STUB 3/4" CONDUIT TO PANEL "RP/A" IN EQUIPMENT ROOM 101.
2. LIGHT FIXTURE SHALL BE RECESSED INTO SOFFIT. FIXTURE SELECTION BY OWNER. COORDINATE ACTUAL FIXTURE SIZE AND MOUNTING REQUIREMENTS WITH ACTUAL EQUIPMENT PROVIDED. SEE ARCHITECTURAL PLANS A1.01 & A1.02 FOR CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL PROVIDE 400A 240/120V SINGLE PHASE, 3-WIRE UTILITY APPROVED METER TRANSOCKET WITH FUSIBLE SWITCH. COORDINATE EXACT REQUIREMENTS WITH LOCAL UTILITY.
4. CONTRACTOR SHALL PROVIDE ELECTRICALLY HELD NORMALLY CLOSED, 4-POLE, LIGHTING CONTACTOR SQUARE D MODEL LG40 OR APPROVED EQUAL.
5. CONTRACTOR SHALL PROVIDE ELECTRONIC ASTROLOGICAL TIME CLOCK IN AN INTERMATIC MODEL ET8215C OR APPROVED EQUAL.
6. PROVIDE SWITCH WITH PILOT LIGHT TO CONTROL LIGHT FIXTURE TYPE "C" LOCATED IN CHEMICAL ROOM. LABEL FACEPLATE TO INDICATE "CHEMICAL STORAGE ROOM LIGHTING."
7. ALL EXPOSED CONDUIT, CONNECTORS, HANGERS, HARDWARE, AND FITTINGS IN THIS AREA SHALL BE PVC.
8. PROVIDE 2 SETS OF (3) #3/0 AWG AND (1) #3 GROUND IN (2) 2" CONDUITS. REFER TO CIVIL PLANS FOR TRANSFORMER LOCATION AND SITE DIMENSIONAL INFORMATION. INSTALL A MINIMUM OF 24" BELOW FINISHED GRADE.
9. PAD MOUNTED UTILITY TRANSFORMER PROVIDED BY OTHERS. ELECTRICAL CONTRACTOR SHALL PROVIDE CONCRETE PAD. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT REQUIREMENTS WITH UTILITY AND OWNER. REFER TO CIVIL PLANS FOR EXACT LOCATION OF TRANSFORMER.
10. PROVIDE ROUGH-IN ONLY. INSTALL EMPTY 3/4" CONDUIT IN WALL AND BACK TO THE NORTH WEST CORNER OF EQUIPMENT ROOM 101 FOR FUTURE DATA OUTLET. LABEL END OF CONDUIT TO INDICATE DATA OUTLET. PROVIDE BUSHING ON END AND PULL STRING.
11. STUB EMPTY 1" CONDUIT, UNDERGROUND, FROM EQUIPMENT ROOM 101 FOR FUTURE SITE LIGHTING. CAP AND STAKE END. COORDINATE LENGTH AND DIRECTION WITH OWNER.
12. PROVIDE 400A 240/120V SINGLE PHASE, 3-WIRE UTILITY APPROVED CT CABINET. COORDINATE EXACT REQUIREMENTS WITH LOCAL UTILITY.
13. PROVIDE ROUGH-IN ONLY. INSTALL EMPTY 3/4" CONDUIT UP TO CEILING FOR FUTURE DATA OUTLET.

MOTOR STARTER SCHEDULE

GENERAL NOTES:

A. OBTAIN SUPPLIERS SHOP DRAWINGS / WIRING DIAGRAMS TO VERIFY LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
B. FURNISH HACR TYPE BREAKERS FOR ALL HVAC EQUIPMENT
C. ELECTRICAL CONTRACTOR SHALL INSTALL ALL STARTS AND DISCONNECTS AND PROVIDE ALL WIRING AND CONDUIT NEEDED FOR COMPLETE SYSTEM
D. ALL MOTORS SHALL BE PROVIDED WITH A DISCONNECT SWITCH LOCATED PER NEC REQUIREMENTS.

EQUIPMENT NUMBER	LOAD	VOLT	PHASE	LOCATION	DESCRIPTION	FED FROM		BREAKER		BRANCH WIRING				SEE NOTES
						PANEL	CKT	SIZE	POLE	#	SIZE	GND	CONDUIT	
PF1	1/6HP	120	1	101	PROPELLER FAN 1	RP/A	14	20	1	2	12	12	3/4"	1
PEF1	1/4HP	120	1	102	PLASTIC EXHAUST FAN 1	RP/A	16	20	1	2	12	12	3/4"	2

MOTOR STARTER SCHEDULE NOTES:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE MANUAL STARTER.
2. STARTER SHALL BE PROVIDED BY MECHANICAL CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.

SPECIAL PURPOSE OUTLET SCHEDULE

#	SERVING	LOC	FEED FROM		BREAKER		WIRING				VOLT	PHASE	LOAD	SEE NOTE
			PANEL	CIRCUIT	SIZE	POLE	#	SIZE	GND	COND				
1	WATER QUALITY MANAGEMENT SYSTEM	101	RP/A	2,4	110	2	2	#2	#6	1-1/4"	240	1	70FLA	2
2	UV SYSTEM	101	RP/A	6,8	60	2	2	#4	#8	1-1/4"	240	1	35FLA	2
3	WATER HEATER	VERIFY	RP/A	18,20	50	2	2	#8	#10	3/4"	240	1	9.5KW	1,2
4	SOLENOID VALVE	100	RP/A	17	20	1	2	#12	#12	3/4"	120	1	-	3

SPECIAL PURPOSE OUTLET SCHEDULE NOTES:

1. REFER TO PLUMBING PLANS FOR LOCATION OF WATER HEATER.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FUSED HEAVY DUTY SAFETY SWITCH ADJACENT TO EQUIPMENT.
3. SOLENOID VALVE FOR SHOWER SHALL BE CONTROLLED BY CIRCUIT 2 OF CONTACTOR AND TIME CLOCK. VERIFY TIME SCHEDULE WITH OWNER PRIOR TO INSTALLATION.

LIGHTING FIXTURE SCHEDULE

NOTE: SEE SPECIFICATIONS SECTIONS FOR ADDITIONAL INFORMATION REGARDING LIGHTING FIXTURE AND INSTALLATION REQUIREMENTS. PROVIDE OPTIONS AND ACCESSORIES REFERENCED BY THE COLUMN TITLED "OPTIONS/ACCESSORIES". MANUFACTURERS LISTED AS ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED. ACCEPTABLE MANUFACTURERS MUST MEET THE PHOTOMETRIC PERFORMANCE OF THE LISTED UNIT.

ABBREVIATIONS: DW = DRY WALL, ES = EXPOSED STRUCTURE, LG = LAY-IN GRID, P = PENDANT, PL = PLASTER, PO = POLE, R = RECESS, S = SURFACE, W = WALL MOUNTED, V = VARIES

DES	LAMP DATA		DESCRIPTION	LIGHTING FIXTURE		VOLT	MOUNT	CEILING TYPE	FIXTURE DEPTH	OPTIONS/ ACCESSORIES	ACCEPTABLE MANUFACTURERS	SEE NOTE
	#	TYPE		MANUFACTURER	CATALOG SERIES							
A	2	32WT8	SECURITY SURFACE LUMINAIRE	FAIL-SAFE	FCT-X-232-120-80/86-LE3-SF3	120	S					
B	-	LED	RECESSED SOFFIT LUMINAIRE	BETALED	SFT-304-5M-RM-04-D-350-IC	120	R					
C	2	F17T8	HAZARDOUS LOCATION LUMINAIRE	KENALL	HES8-24-2-17-DV-2H-PP	120	S					

LIGHTING FIXTURE SCHEDULE NOTES:

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
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ELECTRICAL FLOOR PLAN, DETAILS AND SCHEDULES

E100

ABBREVIATED ELECTRICAL SPECIFICATIONS

GENERAL ELECTRICAL PROVISIONS

WORK INCLUDED IN CONTRACT

MENTION OF ANY ARTICLE, OPERATION OR METHOD REQUIRES THAT CONTRACTOR SHALL PROVIDE SAME AND PERFORM EACH OPERATION IN COMPLETE ACCORDANCE WITH CONDITIONS STATED, CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND TRANSPORTATION AS NECESSARY TO COMPLETE PROJECT IN COMPLIANCE WITH CONTRACT DOCUMENTS. IN GENERAL, WORK INCLUDES EVERYTHING ESSENTIAL FOR COMPLETE ELECTRICAL SYSTEM IN OPERATING ORDER AS SHOWN ON DRAWINGS AND INDICATED IN SPECIFICATIONS.

CONTRACTOR SHALL APPLY FOR ALL PERMITS AND PAY ALL FEES.

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL STATE AND LOCAL INSPECTION AUTHORITIES HAVING JURISDICTION TOGETHER WITH RECOMMENDATIONS OF MANUFACTURER WHOSE EQUIPMENT IS TO BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT.

ALL MATERIALS SHALL BE SUITABLY STORED AND PROTECTED PRIOR TO INSTALLATION AND ALL WORK SHALL BE PROTECTED AFTER INSTALLATION, DURING CONSTRUCTION, AND PRIOR TO ACCEPTANCE.

SHALL ANY ERRORS OR OMISSIONS OCCUR WITHIN SPECIFICATIONS, DRAWINGS, OR OTHER DOCUMENTS, CONTRACTOR IS DEEMED TO HAVE ESTIMATED MORE EXPENSIVE WAY OF DOING WORK, UNLESS ERROR HAS BEEN ADDRESSED (ADDENDUM) BEFORE SUBMISSION OF BID AS TO WHICH METHOD OR MATERIALS WILL BE REQUIRED.

PERMITS AND LICENSES

CONTRACTOR SHALL PREPARE AND SUBMIT ALL APPLICATIONS AND WORKING DRAWINGS, AS REQUIRED, TO AUTHORITIES HAVING JURISDICTION OVER PROJECT. ALL LICENSES AND PERMITS REQUIRED SHALL BE SECURED AND PAID FOR BY CONTRACTOR.

STANDARDS AND CODES

WORK SHALL BE INSTALLED IN ACCORDANCE WITH NATIONAL, STATE, AND LOCAL CODES, ORDINANCES, LAWS, AND REGULATIONS. COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.

MATERIALS SHALL HAVE UL OR ETL LABEL WHERE UL OR ETL STANDARD AND / OR TEST EXISTS.

MATERIALS AND EQUIPMENT

MATERIALS AND EQUIPMENT REQUIRED SHALL BE NEW, UNLESS OTHERWISE INDICATED.

EQUIPMENT SUPPLIED SHALL BE BASED ON MATERIALS AND EQUIPMENT OF MANUFACTURERS SPECIFIED. NO SUBSTITUTIONS WILL BE ALLOWED.

MAINTENANCE MANUALS

CONTRACTOR SHALL ASSEMBLE AND SUBMIT TO OWNER, THREE COMPLETE SETS OF MANUAL OF OPERATION AND MAINTENANCE FOR EACH SYSTEM.

CLEANING AND PAINTING

RUBBISH RESULTING FROM WORK SHALL BE REMOVED AND DISPOSED OF ON DAILY BASIS IN SUCH MANNER AS TO BE ACCEPTABLE TO OWNER.

CONTRACTOR SHALL CLEAN ALL EXPOSED IRON WORK, INTERIOR AND EXTERIOR OF CABINETS AND PULL BOXES, ETC., AND REMOVE RUBBISH AND DEBRIS RESULTING FROM WORK.

WHERE PAINTED SURFACES OF EQUIPMENT HAVE BEEN DAMAGED OR RUSTED DURING CONSTRUCTION, CONTRACTOR SHALL PAINT SAME TO MATCH FINAL.

TESTS AND ACCEPTANCE

OPERATION OF EQUIPMENT AND ELECTRICAL SYSTEMS DOES NOT CONSTITUTE ACCEPTANCE OF WORK BY OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER CONTRACTOR HAS ADJUSTED HIS EQUIPMENT AND DEMONSTRATED THAT IT FULFILLS REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS.

UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL FURNISH CERTIFICATES OF APPROVAL FROM AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL DEMONSTRATE THAT ALL WORK IS COMPLETE AND IN PERFECT OPERATING CONDITION, WITH RACEWAY AND CONDUIT SYSTEM PROPERLY GROUNDED, WIRING FREE FROM GROUNDS AND SHORTS, AND ENTIRE INSTALLATION IS FREE FROM ANY PHYSICAL DEFECTS.

IN PRESENCE OF ENGINEER AND OWNER, CONTRACTOR SHALL DEMONSTRATE PROPER OPERATION OF ALL SYSTEMS.

UNLESS OTHERWISE INDICATED, ALL WORK SHALL BE GUARANTEED FOR ONE (1) YEAR AFTER DATE OF FINAL ACCEPTANCE.

DEFINITIONS

A/E - ARCHITECT AND / OR ENGINEER

PROVIDE - FURNISHED, INSTALLED, AND COMPLETELY WIRED AND CONNECTED BY CONTRACTOR.

CONTRACTOR - PERSON OR GROUP RESPONSIBLE FOR PROJECT CONSTRUCTION.

ELECTRICAL SERVICE AND DISTRIBUTION

PROVIDE TEMPORARY SERVICE IN AREAS OF CONSTRUCTION FOR ALL TRADES. INCLUDE LOCAL LIGHTING AND 120 VOLT POWER. COST OF POWER SHALL BE PAID BY OWNER.

PROVIDE NEW UTILITY SERVICE IN ACCORDANCE WITH DRAWINGS AND AS REQUIRED BY LOCAL CODES. COORDINATE AND PROVIDE ALL EQUIPMENT - CONDUITS, METER BACK BOXES, TERMINATION BOXES, METER STACKS, TRANSFORMER CONCRETE PADS, BOLLARDS, CONDUCTORS, ETC. - AS REQUIRED BY LOCAL UTILITY. CONTRACTOR IS RESPONSIBLE FOR METER APPLICATION AND PAYING ALL FEES ASSOCIATED.

BUSSING SHALL BE COPPER.

GROUNDING SHALL BE IN ACCORDANCE WITH ALL CODES.

SAFETY SWITCHED SHALL BE HEAVY DUTY, FUSED WITH CLASS R INDICATING TYPE FUSES. PROVIDE THREE SPARE FUSES OF EACH FUSE TYPE TO OWNER. PROVIDE NEMA 1 SWITCHES FOR INDOOR USE, AND NEMA 4X FOR OUTDOOR AND CORROSIVE AREAS.

CONTRACTOR TO PROVIDE ALL ARC FLASH LABELING ON ELECTRICAL EQUIPMENT AS REQUIRED BY NEC.

BUILDING WIRE AND CABLE

BUILDING WIRE

PRODUCT DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.

CONDUCTOR: COPPER ONLY.

INSULATION VOLTAGE RATING: 600 VOLTS, RATED 75 DEGREES CELSIUS, UNLESS OTHERWISE INDICATED.

PROVIDE FOLLOWING WIRING TYPES:
- CONCEALED OR EXPOSED DRY INTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, THHN / THWN OR XHHW INSULATION IN RACEWAY. WET OR DAMP INTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW INSULATION IN RACEWAY. EXTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, OR USE INSULATION, IN RACEWAY.
- UNDERGROUND LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, OR USE INSULATION, IN RACEWAY.

SOLID OR STRANDED CONDUCTOR FOR #10 AWG AND SMALLER. CONDUCTOR #6 AWG AND LARGER SHALL BE STRANDED.

CONDUCTOR SHALL NOT BE SMALLER THAN #12 AWG FOR POWER AND LIGHTING CIRCUITS.

CONDUCTOR SHALL NOT BE SMALLER THAN #14 AWG FOR CONTROL CIRCUITS.

ALL WIRES SHALL BE NEW, DELIVERED TO SITE IN UNBROKEN CARTONS, AND SHALL BE LESS THAN ONE YEAR OLD OUT OF MANUFACTURER'S STOCK.

MC, AC, AND NONMETALLIC-SHEATHED CABLES SHALL NOT BE USED.

PORTABLE CORDS

S00W PORTABLE CORD RATED -40°C TO 90°C, 600 VOLTS, COPPER MSHA, COLOR CODED SYNTHETIC RUBBER INSULATED WIRE WITH AN OIL RESISTANT THERMOSET JACKET, UL AND CSA LISTED AS SOOW WIRE.

WIRING CONNECTORS

CONDUCTORS #10 AWG AND SMALLER: 3M SCOTCH-LOK COMPRESSION TYPE SOLDERLESS CONNECTORS WITH PLASTIC COVER.

JOINTS, TAPS, AND SPLICES IN CONDUCTORS #8 AWG AND LARGER: SOLDERLESS COMPRESSION TYPE CONNECTORS, TOOL AND DIE APPLIED, OF TYPE THAT WILL NOT LOOSEN UNDER VIBRATION OR NORMAL STRAINS. BURNDY "HY-DENT" TYPE OR EQUIVALENT.

RUBBER INSULATING ELECTRICAL TAPE: SCOTCH 3M MODEL 23, 30-MIL TAPE.

SPLIT BOLT CONNECTORS ARE NOT ACCEPTABLE.

EXAMINATION

DO NOT DRAW CONDUCTORS INTO CONDUITS UNTIL BUILDING IS ENCLOSED AND WATERTIGHT AND UNTIL WORK THAT MAY CAUSE CONDUCTOR DAMAGE HAS BEEN COMPLETED.

JOINTS TAPS AND SPLICES

EACH TAP, JOINT, OR SPLICE IN CONDUCTORS #6 AWG AND LARGER SHALL BE TAPED WITH TWO HALF-LAP LAYERS OF VINYL PLASTIC ELECTRICAL TAPE AND FINISH WRAP OF COLOR CODING TAPE, WHERE REQUIRED BY CODE.

CABLE SPLICES SHALL BE MADE ONLY IN DISTRIBUTION AND JUNCTION BOXES.

INSTALLATION

NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

BRANCH CIRCUIT CONDUCTORS

CONDUCTORS SHALL BE SIZE #12 MINIMUM, UNLESS OTHERWISE INDICATED.

SIZE CONDUIT, OUTLET BOXES, AND OTHER RACEWAY SYSTEM COMPONENTS IN ACCORDANCE WITH NEC REQUIREMENTS AS MINIMUM.

FIXTURE WIRES

USE CONDUCTOR WITH INSULATION SUITABLE FOR CURRENT, VOLTAGE, AND TEMPERATURE TO WHICH CONDUCTOR WILL BE SUBJECTED.

#12 AWG WIRE SIZE MINIMUM FOR CONDUCTORS SUPPLYING POWER TO SINGLE FIXTURE. 600 VOLT INSULATION MINIMUM.

INSULATION SUITABLE FOR OPERATION AT 90 DEGREES CELSIUS. MINIMUM FOR LIGHTING FIXTURES WITH INTEGRAL BALLAST, MOGUL BASE SOCKETS, QUARTZ LAMPS, OR OTHERWISE WHERE SUBJECT TO EXCESSIVE TEMPERATURES.

FIXTURE WIRING SHALL BE CONTINUOUS WIRING SYSTEM TO LAMP HOLDER OR TO BALLAST AND FROM BALLAST TO LAMP HOLDER.

WIRE COLOR

INSTALL WIRE COLORS IN ACCORDANCE WITH FOLLOWING:
- BLACK AND RED FOR SINGLE PHASE CIRCUITS AT 120 / 240 VOLTS.
- BLACK, RED, AND BLUE FOR CIRCUITS AT 120 / 208 VOLTS SINGLE OR THREE PHASE.
- BROWN, ORANGE, AND YELLOW FOR CIRCUITS AT 277 / 480 VOLTS SINGLE OR THREE PHASE.

NEUTRAL CONDUCTORS: WHITE. WHEN TWO OR MORE NEUTRALS ARE LOCATED IN ONE CONDUIT, INDIVIDUALLY IDENTIFY EACH WITH PROPER CIRCUIT NUMBER.

MOTOR WIRING

APPLICABLE MOTORS FURNISHED UNDER GENERAL CONSTRUCTION, HVAC, AND PLUMBING TRADES OF WORK. MOTOR STARTERS AND CONTROLLERS SHALL BE ERECTED BY CONTRACTOR IN APPROVED MANNER AT LOCATIONS ESTABLISHED BY CONTRACTOR SUPPLYING EQUIPMENT. CONTRACTOR SHALL EXTEND MOTOR CIRCUITS CONNECTIONS IN EACH INSTANCE. ALL LINE VOLTAGE MOTOR CONTROL WIRING FROM STARTER TO MOTOR CONTROLLERS AND ALL INCIDENTAL LINE VOLTAGE MOTOR CONTROL WIRING FROM STARTER TO MOTOR CONTROLLERS SHALL BE DONE BY CONTRACTOR. LOW VOLTAGE WIRING (LESS THAN 120 VOLTS) SHALL BE BY HVAC CONTRACTOR. PROVIDE HORSEPOWER RATED MOTOR DISCONNECT SWITCHES AS REQUIRED BY CODE. CONTRACTOR SHALL VERIFY ALL MATERIALS ARE PROVIDED FOR COMPLETE ELECTRICAL INSTALLATION.

SPECIAL PURPOSE OUTLETS

SPECIAL PURPOSE OUTLET SHALL BE LOCATED AS REQUIRED BY EQUIPMENT BEING SERVED. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ELECTRICAL CHARACTERISTICS OF ACTUAL EQUIPMENT BEING FURNISHED FOR PROJECT PRIOR TO INSTALLATION OF OUTLETS. CONTRACTOR SHALL VERIFY ALL MATERIALS ARE PROVIDED FOR COMPLETE ELECTRICAL INSTALLATION.

RACEWAYS AND BOXES

DESIGN REQUIREMENTS

MINIMUM RACEWAY SIZE: 3/4", UNLESS OTHERWISE INDICATED.

METAL CONDUIT

RIGID GALVANIZED STEEL (RGS) CONDUIT: ANSI C80.1.

INTERMEDIATE METAL CONDUIT (IMC): RIGID STEEL.

ELECTRIC METALLIC TUBING (EMT) CONDUIT: ANSI C80.3.

FITTINGS AND CONDUIT BODIES: NEMA FB 1; FITTINGS FOR METAL RACEWAYS SHALL BE STEEL OR MALLEABLE IRON AND SHALL BE ZINC GALVANIZED, OR CADMIUM PLATED. DO NOT USE ALUMINUM OR DIE CAST FITTINGS.

PVC COATED METAL CONDUIT

PRODUCT DESCRIPTION: NEMA RN 1: RIGID STEEL CONDUIT WITH EXTERNAL PVC COATING, 40 MIL THICK.

FITTINGS AND CONDUIT BODIES: NEMA FB 1; STEEL FITTINGS WITH EXTERNAL PVC COATING TO MATCH CONDUIT, PVC GASKETED FOR MATING SURFACES.

LIQUID-TIGHT FLEXIBLE METAL CONDUIT

PRODUCT DESCRIPTION: INTERLOCKED STEEL CONSTRUCTION WITH PVC SUNLIGHT RESISTANT JACKET.

FITTINGS: NEMA FB 1. LIQUID-TIGHT, SUITABLE FOR GROUNDING, SUITABLE FOR WET LOCATIONS, TAPERED THREADED HUB, NON-METALLIC MATERIALS.

NON-METALLIC CONDUIT

PRODUCT DESCRIPTION: NEMA TC 2: SCHEDULE 40 OR 80 PVC, UL LISTED, AND AS REQUIRED BY NEC. SUNLIGHT RESISTANT.

RATED FOR 90 DEGREES CELSIUS CABLE.

FITTINGS AND CONDUIT BODIES: NEMA TC 3, SCHEDULE 40 OR 80, TO MATCH CONDUIT.

OUTLET BOXES

CAST BOXES: NEMA FB 1, TYPE FD, CAST FERALLOY. FURNISH GASKETED COVER BY BOX MANUFACTURER.

RESTRICTIONS

SPLIT, CRUSHED, OR SCARRED CONDUIT IS NOT ACCEPTABLE.

WELDED CONDUIT IS NOT ACCEPTABLE.

PVC CONDUIT MAY NOT BE USED IN INTERIOR OF BUILDING EXCEPT AT FOLLOWING LOCATIONS:
1. POOL EQUIPMENT ROOMS.
2. WHERE INDICATED ON THE PLANS.

SYSTEM DESCRIPTION

RACEWAY AND BOXES LOCATED AS INDICATED ON DRAWINGS, AND AT OTHER LOCATIONS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND COMPLIANCE WITH REGULATORY REQUIREMENTS. RACEWAY AND BOXES ARE SHOWN IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. PROVIDE RACEWAY TO COMPLETE WIRING SYSTEM.

UNDERGROUND (OUTSIDE) MORE THAN 5'-0" OUTSIDE FOUNDATION WALL: PROVIDE SCHEDULE 40 NON-METALLIC CONDUIT, UNLESS OTHERWISE INDICATED.

UNDERGROUND (OUTSIDE) WITHIN 5'-0" FROM FOUNDATION WALL TO INSIDE OF BUILDING: PROVIDE PVC COATED RIGID STEEL CONDUIT. ONCE INSIDE BUILDING, PROVIDE STEEL CONDUIT.

WET, DAMP, AND OUTDOOR LOCATIONS: PROVIDE RIGID STEEL CONDUIT. PROVIDE CAST METAL JUNCTION AND PULL BOXES.

DRY LOCATIONS: PROVIDE STEEL CONDUIT (RGS, IMC, OR EMT), UNLESS OTHERWISE INDICATED. PROVIDE SHEET METAL BOXES.

INSTALLATION

INSTALL WORK IN ACCORDANCE WITH STATE AND MUNICIPALITY STANDARDS.

INSTALLATION - RACEWAY

SUPPORT RACEWAY USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.

SECURE CONDUITS IN PLACE WITH MALLEABLE CORROSION-PROOF ALLOY STRAPS OR HANGERS. CONDUIT STRAPS USED IN CORROSIVE AREAS SHALL BE PVC COATED.

DO NOT SUPPORT RACEWAY WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS.

ROUTE EXPOSED RACEWAY PARALLEL AND PERPENDICULAR TO WALLS.

CUT CONDUIT SQUARE USING SAW OR PIPE CUTTER: DE-BURR CUT ENDS.

BRING CONDUIT TO SHOULDER OF FITTINGS: FASTEN SECURELY.

JOIN NON-METALLIC CONDUIT USING CEMENT AS RECOMMENDED BY MANUFACTURER. WIPE NON-METALLIC CONDUIT DRY AND CLEAN BEFORE JOINING. APPLY FULL EVEN COAT OF CEMENT TO ENTIRE AREA INSERTED IN FITTING. ALLOW JOINT TO CURE FOR MINIMUM 20 MINUTES.

INSTALL CONDUIT HUBS TO FASTEN CONDUIT TO CAST BOXES IN DAMP AND WET LOCATIONS.

INSTALL NO MORE THAN EQUIVALENT OF THREE (3) 90 DEGREE BENDS BETWEEN BOXES. INSTALL CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. INSTALL HYDRAULIC ONE-SHOT BENDER TO FABRICATE OR FACTORY ELBOWS FOR BENDS IN METAL CONDUIT LARGER THAN 2" SIZE.

AVOID MOISTURE TRAPS: INSTALL JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM.

PROVIDE WATERTIGHT CONDUIT SYSTEM WHERE INSTALLED IN WET LOCATIONS SUCH AS UNDERGROUND, OR WHERE EMBEDDED IN CONCRETE.

CONDUIT RUNS THAT EXTEND THROUGH AREAS OF DIFFERENT TEMPERATURE OR ATMOSPHERIC CONDITIONS OR THAT ARE PARTLY INDOORS AND PARTLY OUTDOORS SHALL BE SEALED, DRAINED, AND INSTALLED IN MANNER THAT WILL PREVENT DRAINAGE OF CONDENSED OR ENTRAPPED MOISTURE INTO CABINETS. MOTORS, OR EQUIPMENT ENCLOSURES.

CONDUIT CONNECTIONS AT MOTORS AND OTHER EQUIPMENT THAT VIBRATES:
- LIQUID-TIGHT FLEXIBLE METAL CONDUIT WHERE FLEXIBLE CONNECTIONS ARE REQUIRED. USE DOUBLE LOCKNUTS AND INSULATED BUSHINGS WITH THREADS FULLY ENGAGED.

DIRECT BURIED UNDERGROUND CONDUIT:
- EXTERIOR UNDERGROUND DIRECT BURIED CONDUITS SHALL BE BURIED AT DEPTH OF NOT LESS THAN 30" BELOW GRADE. UNDERGROUND CONDUITS SHALL SLOPE 1/8" PER FOOT FOR PROPER DRAINAGE. CONDUITS SHALL DRAIN TOWARD MANHOLES AND JUNCTION BOXES, NOT ELECTRICAL EQUIPMENT.

ADJUSTING

INSTALL KNOCKOUT CLOSURES IN UNUSED OPENINGS IN BOXES.

CLEANING

CLEAN INTERIOR OF BOXES TO REMOVE DUST, DEBRIS, AND OTHER MATERIAL.

CLEAN EXPOSED SURFACES AND RESTORE FINISH.

WIRING DEVICES

GENERAL

PROVIDE WIRING DEVICES OF ONE MANUFACTURER. USE OF MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBER IS FOR PURPOSE OF ESTABLISHING STANDARD OF QUALITY AND GENERAL CONFIGURATION DESIRED.

UNLESS OTHERWISE INDICATED, MANUFACTURERS SHALL BE HUBBELL, PASS AND SEYMOUR, OR LEVITON.

SWITCHES AND WALL SWITCHES

TOGGLE SWITCHES: 20 AMP, 120-277 VOLT, HEAVY DUTY INDUSTRIAL SERIES, BACK OR SIDE WIRED. HUBBELL CATALOG NUMBERS 1221 (SINGLE), 1223 (THREE-WAY), 1224 (FOUR-WAY).

COLOR: COORDINATE WITH ARCHITECT

RECEPTACLES

HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HUBBELL CATALOG NUMBER 5382.

TAMPER RESISTANT COMMERCIAL SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HUBBELL CATALOG NUMBER BR20TR.

WEATHER RESISTANT: CORROSION RESISTANT, HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HBL53CM82 (COLOR: YELLOW).

GFCI: SELF-TESTING, HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT, HUBBELL CATALOG NUMBER GFST20

TAMPER-RESISTANT GFCI: HEAVY-DUTY COMMERCIAL GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT, HUBBELL CATALOG NUMBER GFTR20.

WEATHER-RESISTANT GFCI: EXTRA HEAVY DUTY GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT. HUBBELL CATALOG NUMBER GFR5382.

COLOR: COORDINATE WITH ARCHITECT.

WALL PLATES

PROVIDE WALL PLATES FOR WIRING DEVICES, WITH GANGING AND CUTOUTS AS INDICATED AND WITH METAL SCREWS FOR SECURING PLATES TO DEVICES SCREW HEADS COLORED TO MATCH FINISH OF WALL PLATE.

WEATHERPROOF (WEATHER-RESISTANT) COVER PLATE: GASKETED CAST METAL PLATE WITH HINGED AND GASKETED DEVICE COVERS - INTERMATIC CATALOG NUMBER WP1010MC / 1030MC.

OCCUPANCY SENSORS

MANUFACTURERS:
- MYTECH, WATTSTOPPER, HUBBELL, LEVITON.

DUAL TECHNOLOGY: WALL OR CEILING MOUNTED. COMBINATION PASSIVE INFRARED AND ULTRASONIC DETECTION. INCLUDED ISOLATED RELAY AND POWER PACK (BZ-150). WATTSTOPPER DT-300.

DUAL TECHNOLOGY: WALL SWITCH, 600 WATT MINIMUM CAPACITY AT 120 OR 277 VOLTS. ADJUSTABLE SENSITIVITY WITH TIME DELAY FROM 3 TO 15 MINUTES. WATTSTOPPER OW SERIES. FOR DUAL-LEVEL SWITCHING, PROVIDE DW-200.

PREPARATION

CLEAN DEBRIS FROM OUTLET BOXES.

INSTALLATION

INSTALL DEVICES PLUMB AND LEVEL.

INSTALL SWITCHES WITH OFF POSITION DOWN AND 48" AFF TO TOP OF SWITCH.

INSTALL RECEPTACLES WITH GROUNDING POLE ON TOP AND 18" TO BOTTOM.

CONNECT WIRING DEVICE GROUNDING TERMINAL TO OUTLET BOX WITH BONDING JUMPER AND BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.

CONNECT WIRING DEVICES BY WRAPPING SOLID CONDUCTOR AROUND SCREW TERMINAL INSTALL STRANDED CONDUCTOR FOR BRANCH CIRCUITS #10 AWG AND SMALLER. WHEN STRANDED CONDUCTORS ARE USED IN LIEU OF SOLID, USE CRIMP ON FORK TERMINALS FOR DEVICE TERMINATIONS. DO NOT PLACE BARE STRANDED CONDUCTORS DIRECTLY UNDER DEVICE SCREWS.

PROVIDE LAYER OF ELECTRICAL TAPE AROUND PERIMETER SIDES OF EACH WIRING DEVICE SO THAT TERMINATIONS ARE INSULATED.

FIELD QUALITY CONTROL

INSPECT EACH WIRING DEVICE FOR DEFECTS.

OPERATE EACH WALL SWITCH WITH CIRCUIT ENERGIZED AND VERIFY PROPER OPERATION.

VERIFY EACH RECEPTACLE DEVICE IS ENERGIZED.

TEST EACH RECEPTACLE DEVICE FOR PROPER POLARITY.

TEST EACH GFCI RECEPTACLE DEVICE FOR PROPER OPERATION.

LIGHTING FIXTURE AND LAMPS

GENERAL

PROVIDE WIRING DEVICES OF ONE MANUFACTURER. USE OF MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBER IS FOR PURPOSE OF ESTABLISHING STANDARD OF QUALITY AND GENERAL CONFIGURATION DESIRED.

PROVIDE FIXTURES COMPLETE WITH INITIAL FILL OF LAMPS AS SCHEDULED. PROVIDE BALLASTS AS SPECIFIED / REQUIRED AND SIX (6) SPARE LAMPS OF EACH LAMP TYPE.

REFER TO LIGHTING FIXTURE SCHEDULE.

FLUORESCENT BALLASTS: UNLESS OTHERWISE INDICATED IN LIGHTING FIXTURE SCHEDULE, BALLASTS SHALL BE ELECTRONIC PROGRAM START, LESS THAN 10 PERCENT THD, SUITABLE FOR LAMPS SPECIFIED, WITH UNIVERSAL INPUT VOLTAGE TO ACCEPT AMY LINE VOLTAGE BETWEEN 120-277 VOLTS. BALLAST FACTOR SHALL BE MINIMUM 0.88. FOR HIGH BAY APPLICATIONS, BALLAST FACTOR SHALL BE 1.15.

COMPACT FLUORESCENT BALLASTS SHALL BE ELECTRONIC AND EQUIPPED WITH INTERNAL, AUTOMATIC RESETTING THERMAL CUTOUT DEVICE. BALLASTS SHALL BE CLASS P, AND SHALL BE EQUIPPED WITH BALLAST SHUTOFF CIRCUIT FOR PROTECTION OF BALLAST AT END OF LAMP LIFE.

RECESSED FIXTURES SHALL INCLUDE THERMAL CUTOFF PROTECTION IN ACCORDANCE WITH CODE, WHICHEVER APPLICATION DICTATES. PROVIDE IC RATED FIXTURES WHEN REQUIRED.

CONTRACTOR SHALL VERIFY CEILING CONSTRUCTION PRIOR TO ORDERING. PROVIDE CEILING SLOPE ADAPTORS AS REQUIRED.

LAMPS SHALL BE FLUORESCENT, T8 OR COMPACT TYPE HAVING CRI OF 85 OR HIGHER. COLOR TEMPERATURE SHALL BE 3500 DEGREE KELVIN MINIMUM. SEE SCHEDULE.

EXCAVATION

CONTRACTOR SHALL PERFORM ALL EXCAVATION, AND PROVIDE ALL CABLES AND MAKE TERMINATIONS AS INDICATED ON PLANS AND AS REQUIRED.

EXCAVATION SHALL INCLUDE ALL NECESSARY CLEARING OF SITE, ALL GRUBBING AND ALL WET, DRY ROCK EXCAVATION AND ALL INCIDENTAL WORK SUCH AS SHEET PILING, SHORING, PLUMBING AND BAILING, ALL TRANSPORTATION AND BACKFILLING.

CONTRACTOR SHALL OBTAIN FINAL GRADES FROM OWNER BEFORE PROCEEDING WITH TRENCH WORK.

WHERE EARTH TRENCH MEETS CONDUIT EITHER ABOVE OR BELOW TRENCH LINE, TRENCH SHALL BE SLOPED AT GRADE OF NOT MORE THAN 2" PER FOOT TO MEET CONDUIT. DO NOT BEND CONDUIT TO MEET TRENCH.

MATERIAL EXCAVATED FROM TRENCH MAY BE STORED OR SOIL BANKED ADJACENT TO TRENCH. DURING PERIOD TRENCHES MAY BE LEFT OPEN. TRENCH SHALL EITHER BE COVERED OR BARRICADED WITH WARNING LIGHTS TO SATISFACTION OF INSPECTOR OR ENGINEER.

TRENCH SHALL BE CLEARED OF LARGE STONES, AND LARGE OBJECTS. TRENCH BED SHALL BE RELATIVELY CLEAN OF DEBRIS AND FIRM.

DURING EXCAVATION, CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGE TO EXISTING TREES, UTILITIES, CONNECTIONS, ETC. EXPENSE OF REPAIRING ANY DAMAGE AND RESTORING SAME SHALL BE CONTRACTORS EXPENSE.

ALL CONDUIT SHALL DRAIN TO JUNCTION BOXES. NO POCKETS SHALL BE PERMITTED IN CONDUIT LINES.

BACKFILL

EXCAVATED MATERIAL ADJACENT TO TRENCH MAY BE USED AS BACK FILL EXCEPT FOR HARD CHUNKS OF EARTH BROKEN CONCRETE, BRICKS, STONES, OR OTHER OBJECTS LARGER 2" IN DIAMETER WHICH MAY DAMAGE DUCT SYSTEM.

ADDITIONAL BACK FILL MAY BE REQUIRED TO SUPPLEMENT EXCAVATED MATERIAL IN ORDER TO RESTORE TRENCH TO MEET PRECUT CONDITION AND ALLOW FOR SETTING.

BACK FILL SHALL BE FIRMLY TAMPED AND SOLIDLY PACKED: HOWEVER, DO NOT TAMP ON TOP OF PVC CONDUIT.

INSPECT INSTALLATION AFTER 30 DAYS WITH OWNER AND PERFORM SUCH ADDITIONAL WORK AS NECESSARY AND DIRECTED BY OWNER.

BIDDING PROCEDURES

BASE BID SHALL INCLUDE ALL LABOR AND ALL MATERIALS AND EQUIPMENT AS SHOWN ON CONSTRUCTION DRAWINGS AND AS REQUIRED AND SPECIFIED.

BASE BID SHALL NOT INCLUDE ANY CONDITIONS OR QUALIFYING STATEMENTS. SHALL BE IN STRICT ACCORDANCE WITH SPECIFICATION REQUIREMENTS AND SHALL BE BASED UPON INSTALLATION OF MATERIALS AND EQUIPMENT AS SPECIFIED.

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

GRÄEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION

DATE	06/18/2013
PROJECT NO.	2013-2000.01
DRAWN BY	HMC
CHECKED BY	AW
PHASE	BID DOCUMENTS

ELECTRICAL SPECIFICATIONS

E600

Date: Thursday, June 13, 2013 Plotted by: Carroll, Heather Drawing location: L:\Jobs2013\20132000-01\CAD\Electrical\dgn\00\E600.dwg