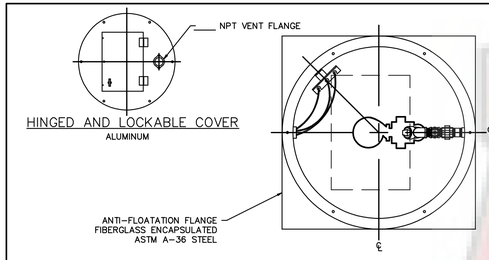
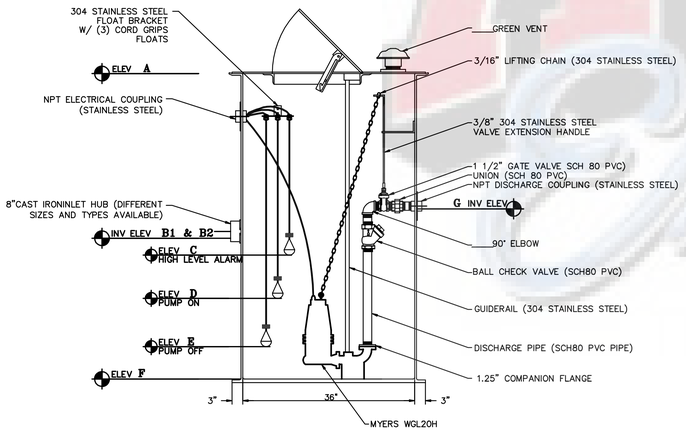
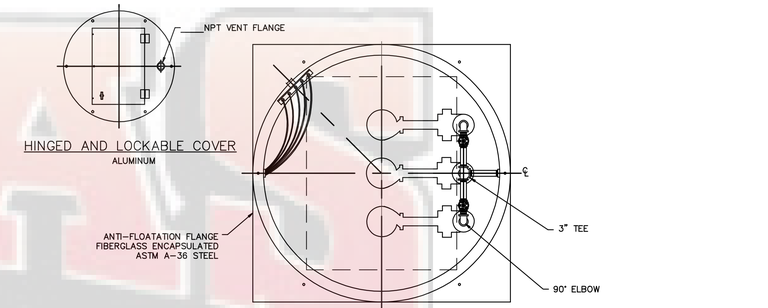
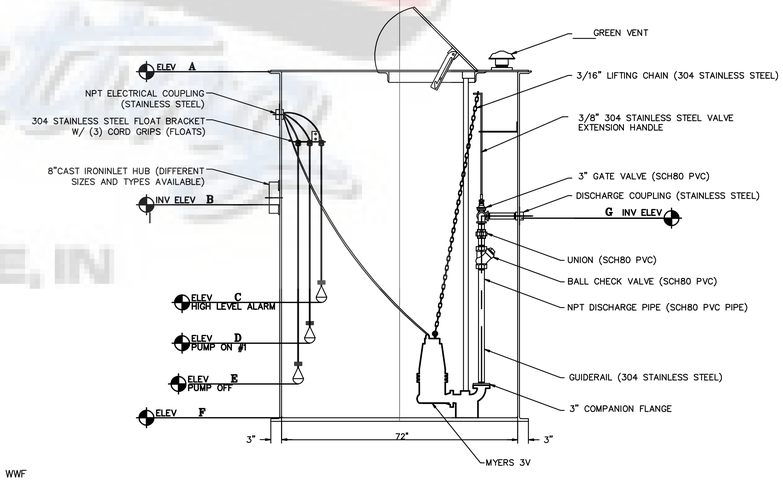


SIMPLEX PUMP STATION				
	HATCHERY	SWINE METABOLISM	12 UNIT	SWINE EVALUATION
PUMP STATION	STR. No. 400	STR. No. 300	STR. No. 600	STR. No. 500
TOP OF RIM ELEVATION (A)	704.00	715.50	707.00	726.00
INVERT IN (B1)	698.30	705.82	702.30	719.38
INVERT IN (B2)	694.05	705.82	—	—
HIGH LEVEL ALARM ELEVATION (C)	693.50	704.90	701.70	712.40
PUMP #1 ON ELEVATION (D)	693.00	704.40	701.20	711.40
PUMP OFF ELEVATION (E)	692.00	703.50	701.00	711.00
BOTTOM ELEVATION (F)	691.00	702.50	700.00	710.00
DISCHARGE (G)	698.30	708.34	701.75	717.84
UPLIFT FORCE TO BE RESISTED	993 lb	993 lb	641 lb	1177 lb

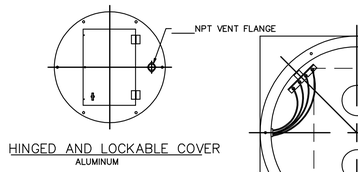


SIMPLEX PUMP STATION
NOT TO SCALE

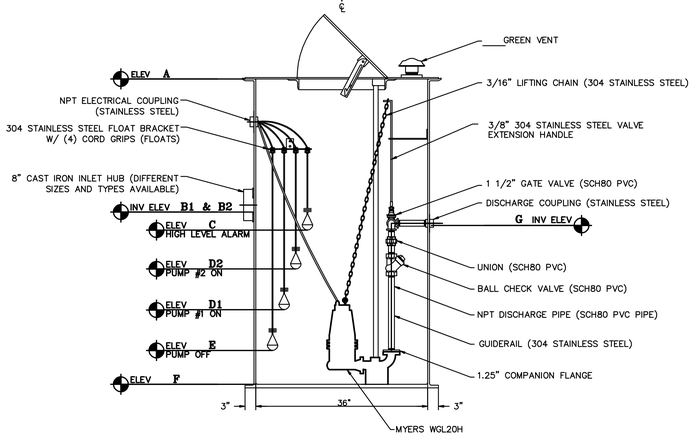




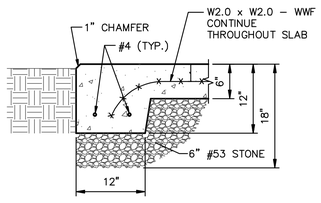
DOSING PUMP STATION
NOT TO SCALE



DUPLEX PUMP STATION	
	FARM
PUMP STATION	STR. No. 101
TOP OF RIM ELEVATION (A)	712.50
INVERT IN (B1)	702.06
INVERT IN (B2)	703.17
HIGH LEVEL ALARM ELEVATION (C)	701.00
PUMP #2 ON ELEVATION (D2)	700.50
PUMP #1 ON ELEVATION (D1)	700.00
PUMP OFF ELEVATION (E)	698.60
BOTTOM ELEVATION (F)	697.50
DISCHARGE (G)	706.00
UPLIFT FORCE TO RESISTED	1120 lb

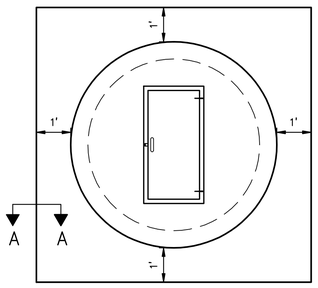


DUPLEX PUMP STATION
NOT TO SCALE



SECTION A–A
NOT TO SCALE
(TYP. FOR ALL WET WELL SLABS)

DOSING LIFT STATION	
	DOSING STATION
PUMP STATION	STR. No. 200
TOP OF RIM ELEVATION (A)	711.50
INVERT IN (B)	707.28
HIGH LEVEL ALARM ELEVATION (C)	706.70
PUMP #1 ON ELEVATION (D)	706.20
PUMP OFF ELEVATION (E)	703.50
BOTTOM ELEVATION (F)	701.50
DISCHARGE (G)	704.00
UPLIFT FORCE TO BE RESISTED	4030 lb



TOP OF LIFT STATION
NOT TO SCALE

PUMP STATIONS GENERAL NOTES:

1. PUMP STATION HATCHES SHALL BE COMPATIBLE WITH THE GUIDE RAIL SYSTEM AND SHALL BE LOCATED AS SHOWN SUCH THAT PUMPS CAN BE EASILY REMOVED FROM PUMP STATIONS. SAFETY GRATE SHALL ALLOW OBSERVATION OF PUMP STATIONS WHILE PREVENTING FALLS INTO STATIONS.
2. CONTRACTOR SHALL INSTALL A CONCRETE PAD AROUND TOP OF PUMP STATIONS. CONCRETE PAD SHALL HAVE MINIMUM DIMENSIONS OF OUTSIDE DIAMETER PLUS TWO FEET WITH PUMP STATION CENTERED WITHIN THE PAD. CONCRETE PADS SHALL BE SQUARE SHAPED. SEE DETAIL THIS SHEET.
3. SIMPLEX STATIONS SHALL HAVE SINGLE DOOR ACCESS HATCHES. DUPLEX STATIONS SHALL HAVE DOUBLE DOOR ACCESS HATCHES. DOSING STATION SHALL HAVE TRIPLE DOOR ACCESS HATCH.
4. ALL PUMP STATIONS SHALL HAVE SAFETY GRATING INSTALLED BELOW ACCESS HATCH.

⚠
5. MOUND DOSING PUMP STATION SHALL BE CONSTRUCTED WITH 1 PUMP AND ALL STATION PIPING REQUIRED FOR 3 PUMPS AS PART OF THE BASE BID. IF ALTERNATES 1 AND/OR 4 ARE CHOSEN, ADDITIONAL PUMPS SHALL BE INSTALLED IN THE STATION. STATION PIPING WITHOUT A PUMP OR FORCE MAIN ATTACHED SHALL BE CAPPED ON BOTH ENDS.
6. THE MOUND DOSING PUMP STATION CONTROL PANEL SHALL BE SET UP SUCH THAT, DEPENDING ON WHICH ALTENATE(S) ARE CHOSEN, THE STATION CAN CONTROL 1 PUMP, ALTERNATE 2 PUMPS, OR ALTERNATE 3 PUMPS.

REVISIONS		
NUMBER	DATE	DESCRIPTION
⚠	06/04/2010	ADDED PUMP STATIONS GENERAL NOTES 5 AND 6.

KATHERINE E. GRAHAM
REGISTERED
No. PE10910215
STATE OF INDIANA
PROFESSIONAL ENGINEER
Katherine E Graham 6-3-10
CERTIFIED BY

LOW PRESSURE DETAILS

ANIMAL SCIENCE RESEARCH CENTER
SANITARY SEPARATION PHASE II - 2010

DATE:	05-24-2010
DRAWN BY:	MDG
CHK'D BY:	KEG
JOB NO.	2009-00571

PURDUE UNIVERSITY

PURDUE I.D. NO. 10623

SHEET NO.
C-500

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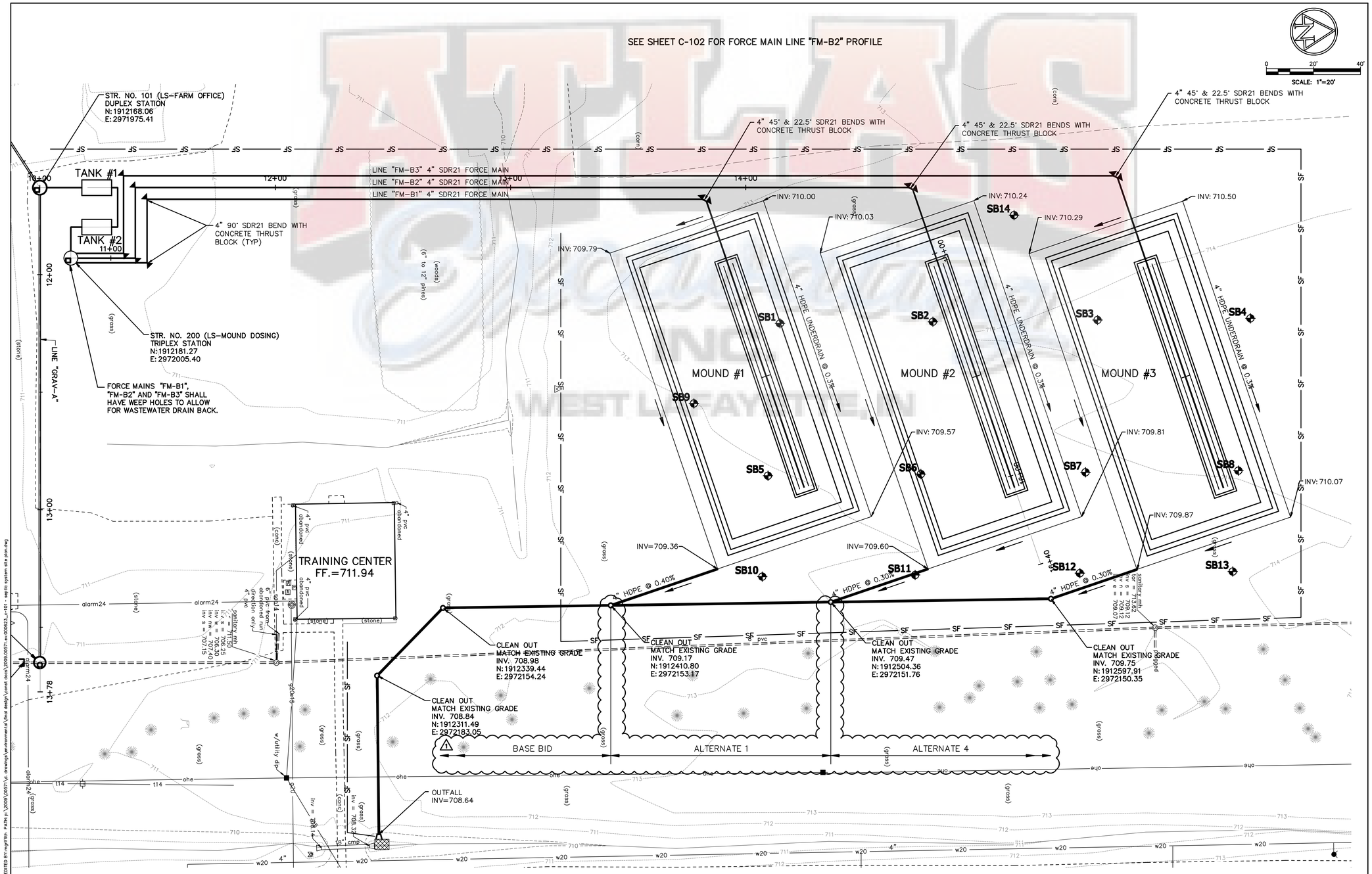

EROSION CONTROL MEASURES

ALL VEGETATED AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED AND MULCHED AT THE COMPLETION OF CONSTRUCTION AND/OR AS THE TRENCH IS CLOSED. EROSION CONTROL BLANKET MAY BE USED IN PLACE OF MULCH WHERE DESIGNATED ON THE PLANS.

EROSION CONTROL LEGEND

SF — SILT FENCE

EROSION CONTROL BLANKET

NOTE:

THE UTILITY LOCATIONS AND CONTOURS SHOWN ON SHEETS S-101 THROUGH S-104 WERE FIELD LOCATED DURING THE COURSE OF THE SURVEY. UTILITY LOCATIONS SHOWN ON THE ABOVE REFERENCED SHEETS ARE BASED ON LOCATIONS MARKED BY THE UTILITY COMPANIES, LOCATIONS MARKED BY PURDUE UNIVERSITY, OR PHYSICAL EVIDENCE FOUND DURING THE FIELD SURVEY. THE UTILITIES AND CONTOURS SHOWN ON SHEETS S-105 THROUGH S-109 CONTAIN THE SAME INFORMATION AS SHEETS S-101 THROUGH S-104 ALONG WITH ADDITIONAL INFORMATION OBTAINED FROM DRAWINGS (RECORD AND DESIGN) GATHERED FROM PURDUE UNIVERSITY AND THE TIPPECANOE COUNTY GIS. THE ACTUAL ELEVATIONS OBTAINED DURING THE FIELD SURVEY AND THE GIS CONTOURS GATHERED FROM THE COUNTY HAVE BEEN MERGED ON SHEETS S-105 THROUGH S-109. THERE ARE INCONSISTENCIES BETWEEN THE ELEVATION DATA OBTAINED BY THE FIELD SURVEY AND THAT PROVIDED BY THE TIPPECANOE COUNTY GIS. CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITIES SHOWN ON THE DRAWINGS PRIOR TO ORDERING STRUCTURES. CONTRACTOR SHALL NOTE DEPTH AND LOCATION OF OTHER UTILITIES NOT SHOWN HEREON THAT ARE DISCOVERED DURING CONSTRUCTION. THIS INFORMATION SHALL BE SHOWN ON THE AS-BUILT DRAWINGS PREPARED BY THE CONTRACTOR.

REVISIONS

NUMBER	DATE	DESCRIPTION
1	06/04/2010	NOTES FOR PIPING

KATHERINE E. GRAHAM
REGISTERED
No. PE10910215
STATE OF INDIANA
PROFESSIONAL ENGINEER
Katherine E. Graham 6-3-10
CERTIFIED BY

MOUND PLAN

ANIMAL SCIENCE RESEARCH CENTER
SANITARY SEPARATION PHASE II - 2010

DATE:	05-24-2010
DRAWN BY:	MDG
CHK'D BY:	KEG
JOB NO.	2009-00571

PURDUE UNIVERSITY

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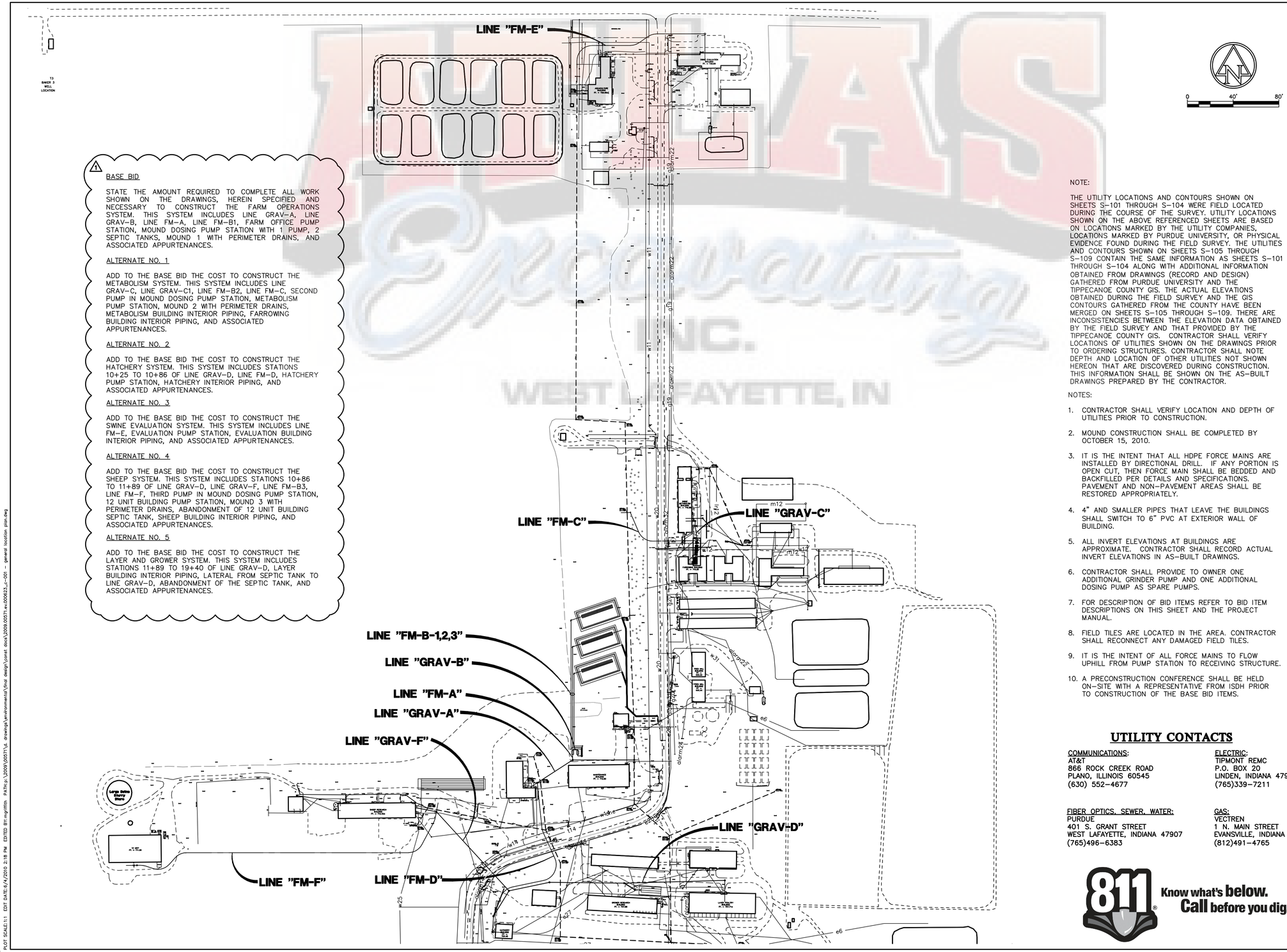
SHEET NO.
C-101



BASE BID

STATE THE AMOUNT REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS, HEREIN SPECIFIED AND NECESSARY TO CONSTRUCT THE FARM OPERATIONS SYSTEM. THIS SYSTEM INCLUDES LINE GRAV-A, LINE GRAV-B, LINE FM-A, LINE FM-B1, FARM OFFICE PUMP STATION, MOUND DOSING PUMP STATION WITH 1 PUMP, 2 SEPTIC TANKS, MOUND 1 WITH PERIMETER DRAINS, AND ASSOCIATED APPURTENANCES.

ALTERNATE NO. 1

ADD TO THE BASE BID THE COST TO CONSTRUCT THE METABOLISM SYSTEM. THIS SYSTEM INCLUDES LINE GRAV-C, LINE GRAV-C1, LINE FM-B2, LINE FM-C, SECOND PUMP IN MOUND DOSING PUMP STATION, METABOLISM PUMP STATION, MOUND 2 WITH PERIMETER DRAINS, METABOLISM BUILDING INTERIOR PIPING, FARROWING BUILDING INTERIOR PIPING, AND ASSOCIATED APPURTENANCES.

ALTERNATE NO. 2

ADD TO THE BASE BID THE COST TO CONSTRUCT THE HATCHERY SYSTEM. THIS SYSTEM INCLUDES STATIONS 10+25 TO 10+86 OF LINE GRAV-D, LINE FM-D, HATCHERY PUMP STATION, HATCHERY INTERIOR PIPING, AND ASSOCIATED APPURTENANCES.

ALTERNATE NO. 3

ADD TO THE BASE BID THE COST TO CONSTRUCT THE SWINE EVALUATION SYSTEM. THIS SYSTEM INCLUDES LINE FM-E, EVALUATION PUMP STATION, EVALUATION BUILDING INTERIOR PIPING, AND ASSOCIATED APPURTENANCES.

ALTERNATE NO. 4

ADD TO THE BASE BID THE COST TO CONSTRUCT THE SHEEP SYSTEM. THIS SYSTEM INCLUDES STATIONS 10+86 TO 11+89 OF LINE GRAV-D, LINE GRAV-F, LINE FM-B3, LINE FM-F, THIRD PUMP IN MOUND DOSING PUMP STATION, 12 UNIT BUILDING PUMP STATION, MOUND 3 WITH PERIMETER DRAINS, ABANDONMENT OF 12 UNIT BUILDING SEPTIC TANK, SHEEP BUILDING INTERIOR PIPING, AND ASSOCIATED APPURTENANCES.

ALTERNATE NO. 5

ADD TO THE BASE BID THE COST TO CONSTRUCT THE LAYER AND GROWER SYSTEM. THIS SYSTEM INCLUDES STATIONS 11+89 TO 19+40 OF LINE GRAV-D, LAYER BUILDING INTERIOR PIPING, LATERAL FROM SEPTIC TANK TO LINE GRAV-D, ABANDONMENT OF THE SEPTIC TANK, AND ASSOCIATED APPURTENANCES.

NOTE:

THE UTILITY LOCATIONS AND CONTOURS SHOWN ON SHEETS S-101 THROUGH S-104 WERE FIELD LOCATED DURING THE COURSE OF THE SURVEY. UTILITY LOCATIONS SHOWN ON THE ABOVE REFERENCED SHEETS ARE BASED ON LOCATIONS MARKED BY THE UTILITY COMPANIES, LOCATIONS MARKED BY PURDUE UNIVERSITY, OR PHYSICAL EVIDENCE FOUND DURING THE FIELD SURVEY. THE UTILITIES AND CONTOURS SHOWN ON SHEETS S-105 THROUGH S-109 CONTAIN THE SAME INFORMATION AS SHEETS S-101 THROUGH S-104 ALONG WITH ADDITIONAL INFORMATION OBTAINED FROM DRAWINGS (RECORD AND DESIGN) GATHERED FROM PURDUE UNIVERSITY AND THE TIPPECANOE COUNTY GIS. THE ACTUAL ELEVATIONS OBTAINED DURING THE FIELD SURVEY AND THE GIS CONTOURS GATHERED FROM THE COUNTY HAVE BEEN MERGED ON SHEETS S-105 THROUGH S-109. THERE ARE INCONSISTENCIES BETWEEN THE ELEVATION DATA OBTAINED BY THE FIELD SURVEY AND THAT PROVIDED BY THE TIPPECANOE COUNTY GIS. CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITIES SHOWN ON THE DRAWINGS PRIOR TO ORDERING STRUCTURES. CONTRACTOR SHALL NOTE DEPTH AND LOCATION OF OTHER UTILITIES NOT SHOWN HEREON THAT ARE DISCOVERED DURING CONSTRUCTION. THIS INFORMATION SHALL BE SHOWN ON THE AS-BUILT DRAWINGS PREPARED BY THE CONTRACTOR.

NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.
2. MOUND CONSTRUCTION SHALL BE COMPLETED BY OCTOBER 15, 2010.
3. IT IS THE INTENT THAT ALL HDPE FORCE MAINS ARE INSTALLED BY DIRECTIONAL DRILL. IF ANY PORTION IS OPEN CUT, THEN FORCE MAIN SHALL BE BEDDED AND BACKFILLED PER DETAILS AND SPECIFICATIONS. PAVEMENT AND NON-PAVEMENT AREAS SHALL BE RESTORED APPROPRIATELY.
4. 4" AND SMALLER PIPES THAT LEAVE THE BUILDINGS SHALL SWITCH TO 6" PVC AT EXTERIOR WALL OF BUILDING.
5. ALL INVERT ELEVATIONS AT BUILDINGS ARE APPROXIMATE. CONTRACTOR SHALL RECORD ACTUAL INVERT ELEVATIONS IN AS-BUILT DRAWINGS.
6. CONTRACTOR SHALL PROVIDE TO OWNER ONE ADDITIONAL GRINDER PUMP AND ONE ADDITIONAL DOSING PUMP AS SPARE PUMPS.
7. FOR DESCRIPTION OF BID ITEMS REFER TO BID ITEM DESCRIPTIONS ON THIS SHEET AND THE PROJECT MANUAL.
8. FIELD TILES ARE LOCATED IN THE AREA. CONTRACTOR SHALL RECONNECT ANY DAMAGED FIELD TILES.
9. IT IS THE INTENT OF ALL FORCE MAINS TO FLOW UPHILL FROM PUMP STATION TO RECEIVING STRUCTURE.
10. A PRECONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH A REPRESENTATIVE FROM ISDH PRIOR TO CONSTRUCTION OF THE BASE BID ITEMS.

UTILITY CONTACTS

COMMUNICATIONS:
AT&T
866 ROCK CREEK ROAD
PLANO, ILLINOIS 60545
(630) 552-4677

ELECTRIC:
TIPMONT REMC
P.O. BOX 20
LINDEN, INDIANA 47955
(765)339-7211

FIBER OPTICS, SEWER, WATER:
PURDUE
401 S. GRANT STREET
WEST LAFAYETTE, INDIANA 47907
(765)496-6383

GAS:
VECTREN
1 N. MAIN STREET
EVANSVILLE, INDIANA 47702
(812)491-4765

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

REVISIONS		
NUMBER	DATE	DESCRIPTION
1	06/04/2010	UPDATED BASE BID AND ALTERNATE NOTES.

KATHERINE E. GRAHAM REGISTERED No. PE10910215 STATE OF INDIANA PROFESSIONAL ENGINEER
Katherine E. Graham 6-3-10
CERTIFIED BY

GENERAL LOCATION PLAN AND BID ITEM MAP

ANIMAL SCIENCE RESEARCH CENTER SANITARY SEPARATION PHASE II - 2010

DATE:	05-24-2010
DRAWN BY:	MDG
CHK'D BY:	KEG
JOB NO.	2009-00571

PURDUE UNIVERSITY

PURDUE I.D. NO. 10623

SHEET NO.
C-001

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