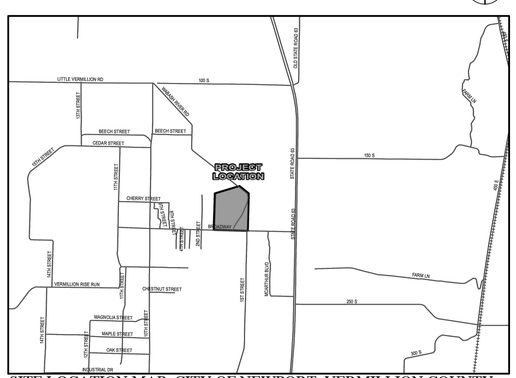
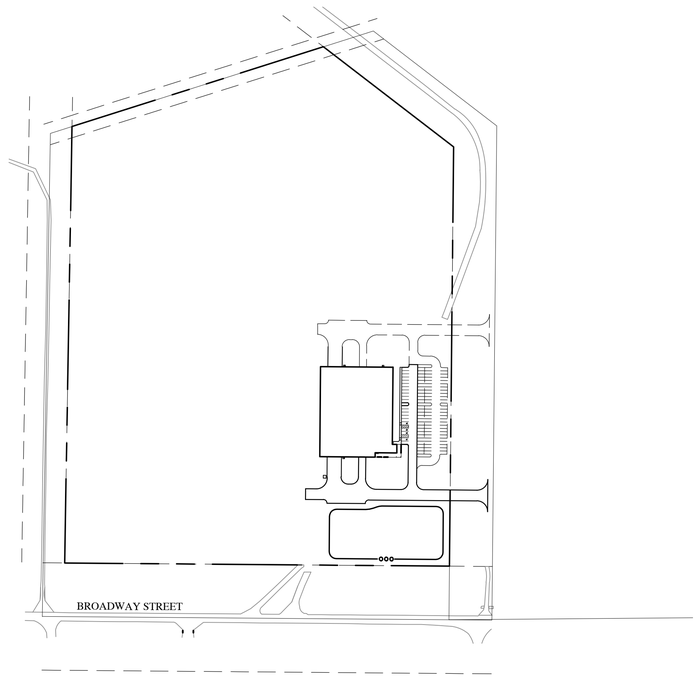
VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA

APRIL 22, 2016

AREA LOCATION MAP: STATE OF INDIANA
SCALE: NONE



SITE LOCATION MAP: CITY OF NEWPORT, VERMILLION COUNTY
SCALE: 1" = 2,640'



GRAPHIC SCALE
0' 200' 400' 600'
(IN FEET)

Indiana 811
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BENCHMARK INFORMATION:

TBM #1: RAILROAD SPIKE IN SOUTHWEST SIDE OF LIGHT POLE AT SOUTHEAST CORNER OF PROPERTY.
ELEV. 654.48

TBM #2: RAILROAD SPIKE IN SOUTHEAST SIDE OF UTILITY POLE AT SOUTHWEST CORNER OF PROPERTY.
ELEV. 648.06

ORIGINATING BENCHMARK
ELEV. 646.65 – SOUTHEAST CORNER OF S.R. 63 AND BROADWAY STREET.

VERTICAL DATUM INFORMATION:

NAVD 88

LEGAL DESCRIPTION:

PART OF THE SOUTH HALF OF SECTION 4 AND PART OF THE NORTH HALF OF SECTION 9, TOWNSHIP 16 NORTH, RANGE 9 WEST, VERMILLION CIVIL TOWNSHIP, VERMILLION COUNTY, INDIANA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A 5/8 INCH IRON PIN FOUND AT THE SOUTHEAST CORNER OF SAID SECTION 4; THENCE SOUTH 89 DEGREES 26 MINUTES 31 SECONDS WEST 1824.73 FEET TO A MAG NAIL WITH WASHER STAMPED "HENNESSY LS20200026" SET IN THE CENTERLINE OF BROADWAY STREET AND BEING THE POINT OF BEGINNING FOR THE FOLLOWING DESCRIBED TRACT; THENCE NORTH 89 DEGREES 31 MINUTES 28 SECONDS WEST ALONG THE CENTERLINE OF BROADWAY STREET 1256.52 FEET TO A SET MAG NAIL WITH WASHER STAMPED "HENNESSY LS20200026"; THENCE NORTH 00 DEGREES 58 MINUTES 10 SECONDS EAST 1350.35 FEET TO A SET 5/8 INCH IRON PIN WITH CAP STAMPED "K.J. HENNESSY LS20200026; THENCE NORTH 72 DEGREES 23 MINUTES 49 SECONDS EAST 946.57 FEET TO A SET 5/8 INCH IRON PIN WITH CAP STAMPED "K.J. HENNESSY LS20200026"; THENCE SOUTH 52 DEGREES 26 MINUTES 26 SECONDS EAST 435.15 FEET TO A SET 5/8 INCH IRON PIN WITH CAP STAMPED "K.J. HENNESSY LS20200026"; THENCE SOUTH 00 DEGREES 33 MINUTES 47 SECONDS WEST 1381.65 FEET TO THE POINT OF BEGINNING, CONTAINING 43.13 ACRES MORE OR LESS.

DEVELOPER/OWNER:

C.H. GARMONG & SON, INC.
3050 POPLAR STREET
TERRE HAUTE, IN 47803
CONTACT: DALE RILEY

SHEET INDEX:

UTILITY CONTACTS

ELECTRIC:
DUKE ENERGY
1400 INDIANAPOLIS RD.
GREENCASTLE, IN 46135
CONTACT: DAWN McDANIEL
(765) 658-2225

GAS:
VECTREN ENERGY
457 S. FIRST ST.
TERRE HAUTE, IN 47808
CONTACT: SCOTT GAMBILL
(812) 231-6433

TELEPHONE:
AT&T
5858 N. COLLEGE AVE.
INDIANAPOLIS, IN 46220

SEWER:
NEWPORT CHEMICAL DEPOT REUSE AUTHORITY
1051 W. INDIANA AVE.
HILLSDALE, IN 47854
CONTACT: LEN HELT
(765) 245-2415 EXT. 106

WATER:
NEWPORT CHEMICAL DEPOT REUSE AUTHORITY
1051 W. INDIANA AVE.
HILLSDALE, IN 47854
CONTACT: LEN HELT
(765) 245-2415 EXT. 106

CABLE:
NEW WAVE COMMUNICATIONS
1783 S.R. 163
CLINTON, IN 48742
CONTACT: (812) 420-2145

OVERALL GENERAL PROJECT NOTES:

1. NOT ALL GAS, POWER, OR TELEPHONE LINES, WHETHER ABOVE OR BELOW GROUND, HAVE BEEN SHOWN ON THE DRAWINGS. ANY UNDERGROUND INFORMATION SHOWN ON THE DRAWINGS HAS BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND IS GIVEN FOR THE CONTRACTORS BENEFIT. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR PROTECTING ALL UTILITIES IN HIS WORK AREA WHETHER SHOWN OR NOT, AND MUST REALIZE THAT THE ACTUAL LOCATION OF THE UTILITIES MAY BE DIFFERENT FROM THAT SHOWN ON THE DRAWINGS. ALL EXISTING UTILITIES ENCOUNTERED IN THE WORK, WHETHER IN PUBLIC RIGHTS OF WAY OR ON PRIVATE PROPERTY, SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE ANY UTILITIES WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION TO SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE UTILITY, IF MINOR CONFLICTS ARISE, THE CONTRACTOR MAY SHIFT THE PROPOSED LOCATION OF THE INSTALLATION OF THE WORK. BEFORE WORKING WITH OR AROUND UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR.

2. SAFETY PROVISIONS FOR THE WORK SHALL BE IN FULL COMPLIANCE WITH ALL APPLICABLE RULES AND REGULATIONS OF THE INDIANA OSHA AND ANY OTHER LOCAL STATE OR FEDERAL AGENCY HAVING JURISDICTION. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. CONTRACTOR SHALL AT MINIMUM, PROVIDE TRAFFIC CONTROL AS REQUIRED TO SAFELY PROTECT THE GENERAL PUBLIC, THE CONTRACTOR'S WORK FORCES AND THE WORK. TRAFFIC CONTROL SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND THE INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, STANDARD DETAILS AND GENERAL INSTRUCTIONS TO FIELD EMPLOYEES. THE REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS. THE OPTION OF THE OWNER AND/OR ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL BARRICADES, FENCES, WARNING SIGNS, FLASHING LIGHTS, TEMPORARY WALKWAYS, AND TRAFFIC CONTROL DURING CONSTRUCTION. CONTRACTOR TO COMPLY WITH ALL OSHA REGULATIONS, REQUIREMENTS, SAFETY MEETING REQUIREMENTS AND AGENCY REQUIREMENTS FOR TRAFFIC CONTROL AND SAFETY PRECAUTIONS, THERE WILL BE NO SEPARATE OR ADDITIONAL PAYMENT FOR THIS WORK.

3. WHERE PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS OR BENCHMARKS, SUCH AS STONES, PIPES, OR OTHER SUCH MONUMENTS ARE ENCOUNTERED AND CONFLICT WITH THE WORK, THE ENGINEER SHALL BE NOTIFIED BEFORE THEY ARE DISTURBED, THE MARKERS SHALL BE PROTECTED AFTER THE OWNER, ENGINEER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR REFERENCED THEIR LOCATIONS.

4. ALL MATERIALS DENOTED "SALVAGED" SHALL BE STORED AND PROTECTED AT THE SITE FOR THE OWNER TO COLLECT OR FOR THE CONTRACTOR TO RE-USE AS INDICATED.

5. THERE SHALL BE NO CHANGES WITHOUT WRITTEN APPROVAL OF ENGINEER.

6. PLANS AND SPECIFICATIONS REFERENCE ARCHITECT, ENGINEER AND LANDSCAPE ARCHITECT INTERCHANGEABLY THROUGHOUT.

REVISIONS

DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

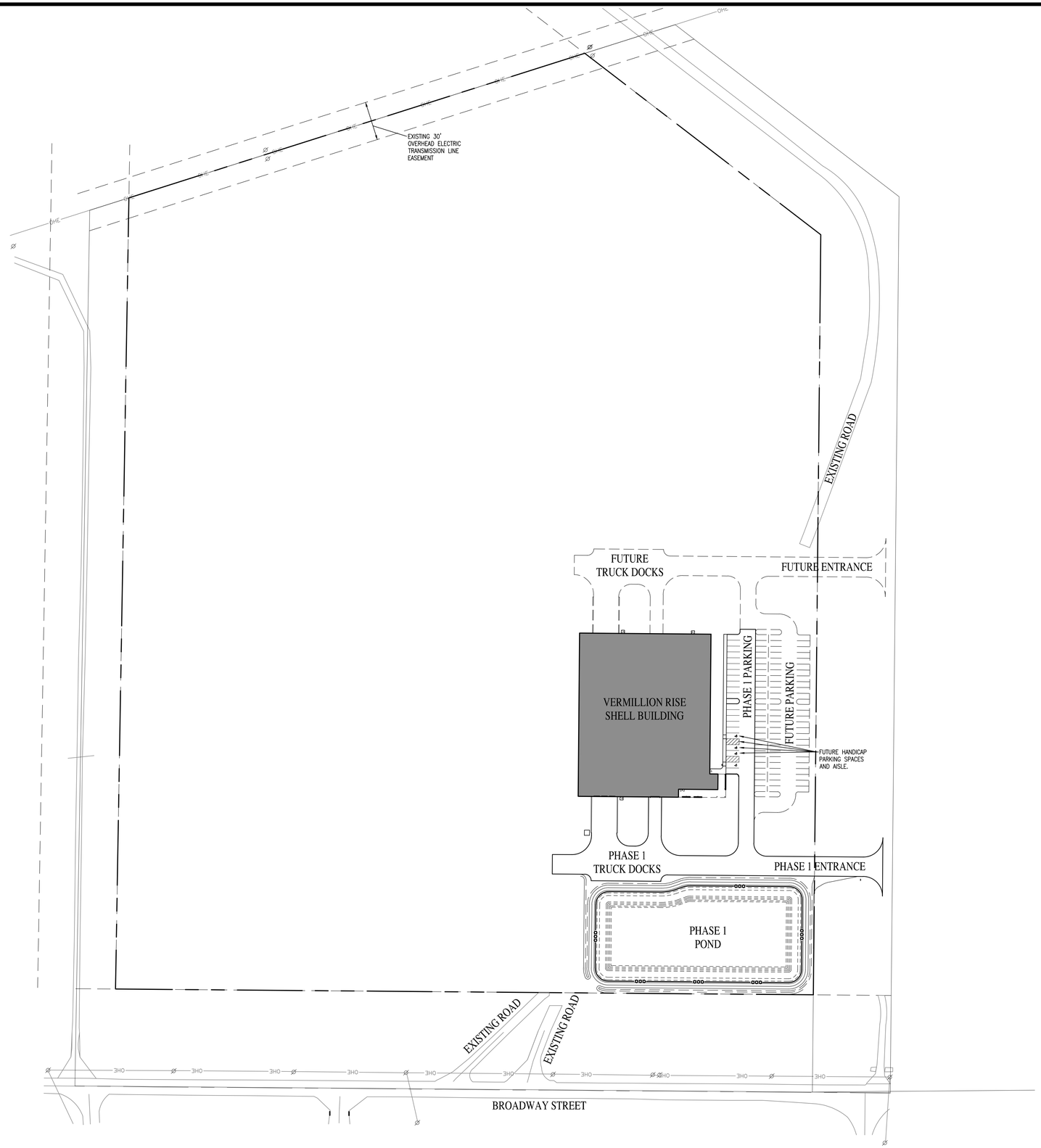
HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
COVER

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER
Travis P Gaither

DRAWN BY: TD
CHECKED BY: TG
DATE: APRIL 22, 2016
SCALE: AS SHOWN
JOB NUMBER: 2015-186
SHEET: C1.0
COVER

Plot Date: Jun 07, 2016 Plot Time: 10:15am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Infra\Design\CAD\15186.Cover Sheet.dwg, Layout: C1.0 By: tdavis



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GRAPHIC SCALE
0' 80' 160' 240'
(IN FEET)

LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
OHE	OVERHEAD ELECTRIC LINE	
	NORMAL POOL	
ø	UTILITY POLE	
	PROPOSED BUILDING	

PHASE 1
PARKING:

21	STANDARD SPACES
1	ACCESSIBLE SPACES
22	TOTAL SPACES PROVIDED

ADDITIONAL FUTURE
PHASE PARKING:

78	STANDARD SPACES
FUTURE PARKING TOTALS	
95	STANDARD SPACES
4	ACCESSIBLE SPACES
99	TOTAL SPACES

REVISIONS

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6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

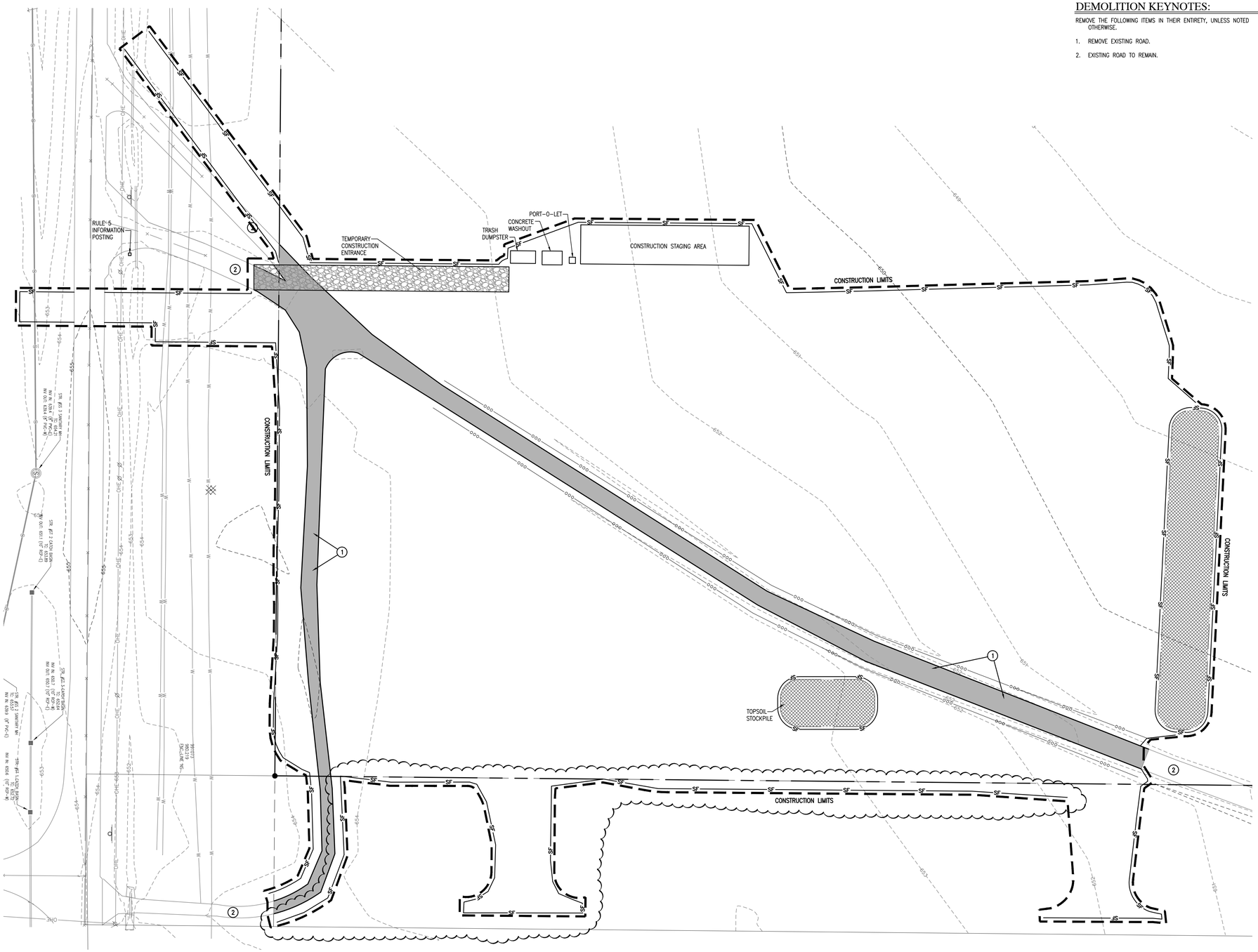
VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
OVERALL LAYOUT PLAN

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

Travis P Gaither

DRAWN BY	JOB NUMBER 2015-186
TD	
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	
SHEET	
C1.1	
OVERALL LAYOUT PLAN	

Plot Date: Jun 07, 2016 Plot Time: 10:16am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Info\Design\CAD\15186_Overall Layout Plan.dwg, Layout: C1.1 By: tdavis



PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
DALE RILEY
GARMONG CONSTRUCTION SERVICES
3050 POPLAR ST.
TERRA HAUTE, IN 47803
(812) 234-3714

DEMOLITION KEYNOTES:

REMOVE THE FOLLOWING ITEMS IN THEIR ENTIRETY, UNLESS NOTED OTHERWISE.

1. REMOVE EXISTING ROAD.
2. EXISTING ROAD TO REMAIN.

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GRAPHIC SCALE
0' 40' 80' 120'
(IN FEET)

LEGEND:

EXISTING	REMOVE
	PROPERTY LINE
	EASEMENT LINE
W	WATER MAIN
ST	STORM SEWER
OHE	OVERHEAD ELECTRIC LINE
S	SANITARY SEWER
	FLOWLINE
800	CONTOUR, MAJOR
799	CONTOUR, MINOR
	STORM STR.
	SANITARY MANHOLE
	BENCHMARK
	MONUMENT
	UTILITY POLE
SF SF	SILT FENCE
	CONSTRUCTION LIMITS
	TEMPORARY SITE CONSTRUCTION ENTRANCE
	TOPSOIL SALVAGE / UTILIZATION
	ROAD DEMOLITION

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL MATERIALS INDICATED ON THE PLAN. GENERALLY, DEMOLITION AREAS AND FACILITIES ARE INDICATED WITH BOLD LINES AND/OR SHADED AREAS. DISPOSAL OF SITE MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL GUIDELINES.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FEATURES WHICH LIE ALONG THE PERIMETER OF THE SITE. THESE FEATURES INCLUDE, BUT ARE NOT LIMITED TO: BUILDINGS, PAVEMENTS, FENCES, VEGETATION, UTILITIES, PROPERTY MARKERS, ETC. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE WHICH OCCURS DURING OR AS A RESULT OF CONSTRUCTION ACTIVITY. REPLACEMENT OF DAMAGED PROPERTY SHALL BE EQUAL TO EXISTING CONDITIONS.

3. FOLLOWING REMOVAL OF INDICATED NATURAL FEATURES AND SITE IMPROVEMENTS, AND FOLLOWING THE COMPLETION OF EARTHWORK AS INDICATED ON THE GRADING PLAN, CONTRACTOR SHALL SUPPLY AND INSTALL TOPSOIL FILL TO THE FINISH GRADES INDICATED ON THE GRADING PLAN. TOPSOIL FILL SHALL BE FREE OF ROCK, RUBBISH, OR OTHER UNSUITABLE MATERIAL AND SHALL BE MODERATELY COMPACTED WHEN PLACED TO AVOID EXCESSIVE SETTLEMENTS. THE SURFACE OF ALL FILL SHALL BE UNIFORMLY AND SMOOTHLY GRADED IN ACCORDANCE WITH THE SITE GRADING PLAN. THE FINISHED SURFACE GRADES SHALL BE NOT MORE THAN 0.1 FOOT ABOVE OR BELOW THE GRADES INDICATED ON THE PLANS. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING GRADES AND THE ADJACENT FILL.

4. CURRENT FIELD CONDITIONS MAY VARY SOMEWHAT FROM THOSE INDICATED ON THIS PLAN. THE INFORMATION SHOULD NOT BE CONSIDERED AS EXACT OR COMPLETE.

A) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LINE LOCATIONS PRIOR TO CONSTRUCTION. CONTACT THE INDIANA UNDERGROUND UTILITY PROTECTION SERVICE AT 1-800-382-5540.

B) THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OR RESUMPTION OF WORK WHICH COULD DISRUPT THE RESPECTIVE UTILITY SERVICE.

C) ANY DEVIATIONS FROM THE UTILITY LOCATIONS OR ELEVATIONS FROM THOSE SHOWN ON THE PLANS SHALL BE REPORTED TO THE ENGINEER BEFORE CONSTRUCTION PROCEEDS AT THAT LOCATION. ANY OTHER DEVIATIONS OF THE SITE IMPROVEMENTS FROM THOSE SHOWN ON THE PLANS THAT AFFECT THE PROPOSED IMPROVEMENTS SHALL BE REPORTED TO THE ENGINEER BEFORE CONSTRUCTION PROCEEDS AT THAT LOCATION.

D) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF ALL EXISTING UTILITIES WHICH ARE IN CONFLICT WITH THE IMPROVEMENTS SHOWN ON THE SITE PLANS.

E) ANY DAMAGE TO EXISTING UTILITY LINES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

STORMWATER POLLUTION PREVENTION NOTES:

LOCATION OF PROJECT

LONGITUDE 87°25'04" W
LATITUDE 39°51'13" N

VERMILLION TOWNSHIP, VERMILLION COUNTY, INDIANA.

RECEIVING WATER = WABASH RIVER – LITTLE RACOON CREEK

SEE SHEET C1.6, C8.0 FOR POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN AND NOTES
SEE SHEETS C1.2, C1.6 AND C8.0 FOR STORMWATER POLLUTION PREVENTION PLAN DETAILS AND NOTES

NOTE: PRIOR TO ANY WORK OCCURRING ON THE SITE, CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING WITH VERMILLION COUNTY SWCD, SITE OWNER, GENERAL CONTRACTOR, AND GRADING CONTRACTOR. EARTH MOVING OR DEMOLITION MAY NOT COMMENCE UNTIL PRE-CONSTRUCTION MEETING HAS OCCURRED AND PRE-CONSTRUCTION SCHEDULE OF EROSION CONTROL 1-6 HAVE BEEN COMPLETED IN ADDITION TO ELEMENTS DEPICTED IN PLAN.

RULE 5 REQUIRES ALL DISTURBED AREAS THAT WILL POTENTIALLY BE IDLE FOR 15 DAYS OR MORE BE STABILIZED IMMEDIATELY.

ADDITIONAL STORMWATER POLLUTION PREVENTION MAY BE REQUIRED IN THE FIELD BY THE VERMILLION COUNTY SWCD. ALL EROSION CONTROL MATERIALS MUST BE APPROVED BY VERMILLION COUNTY SWCD M54 PRIOR TO INSTALLATION.

THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS IN THE STREETS.

APPROXIMATE CONSTRUCTION SCHEDULE:
START DATE: MAY 2016
COMPLETION DATE: MAY 2018

INDEX OF SWPPP ELEMENTS

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
PRE-CONSTRUCTION STORMWATER POLLUTION PREVENTION AND DEMOLITION PLAN

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

DRAWN BY TD	JOB NUMBER 2015-186
CHECKED BY TG	
DATE APRIL 22, 2016	
SCALE AS SHOWN	

SHEET
C1.2
PRE-CONSTRUCTION STORMWATER POLLUTION PREVENTION AND DEMOLITION PLAN

Plot Date: Jun 07, 2016 Plot Time: 10:16am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Infra\Design\CAD\15186.PSPP and Demolition Plan.dwg, Layout: C1.2 By: tdavis

SITE IMPROVEMENT KEYNOTES: (#)

1. INSTALL REGULAR DUTY ASPHALT PAVEMENT PER DETAIL 2 ON C8.1.
2. INSTALL HEAVY DUTY ASPHALT PAVEMENT PER DETAIL 3 ON C8.1.
3. INSTALL CONCRETE WALK PER DETAILS 4 AND 6 ON C8.1.
4. INSTALL PAVEMENT MARKINGS PER DETAIL 8 ON C8.1.
5. INSTALL INTEGRAL CURB AND WALK PER DETAILS 6 AND 7 ON C8.1
6. INSTALL VAN ACCESSIBLE PARKING SIGN PER DETAIL 12 ON C8.1.
7. STORM STRUCTURE, SEE SHEET C1.5 AND C6.0.
8. INSTALL "STOP" SIGN PER DETAIL 11 ON SHEET C8.1.
9. LANDSCAPING / GRASS.
10. SANITARY STRUCTURE, SEE SHEET C1.5.
11. INSTALL HEAVY DUTY CONCRETE PAVEMENT PER DETAIL 1 ON C8.1.
12. INSTALL CONCRETE RAMP PER DETAIL 9 ON C8.1.
13. INSTALL PIPE BOLLARD PER DETAIL 10 ON C8.1
14. RETAINING WALL, SEE ARCHITECTURAL PLANS FOR DETAILS.
15. INSTALL STRAIGHT CURB PER DETAIL 13 ON C8.1.

GEOMETRIC LAYOUT NOTES:

1. TOPOGRAPHIC SURVEY PREPARED BY:

   HWC ENGINEERING
   151 NORTH DELAWARE STREET, SUITE 800
   INDIANAPOLIS, INDIANA 46204
   317-347-3663

   BOUNDARY SURVEY PREPARED BY:

   HENNESSY SURVEYING
   6085 SOUTH 50 WEST
   FORT BRANCH, IN 47648

2. ALL DIMENSIONS ARE REFERENCED TO THE EDGE OF PAVEMENT, EDGE OF SIDEWALK, FRONT OF CURB, OR OUTSIDE SURFACE OF BUILDING WALL UNLESS OTHERWISE NOTED.
3. REFER TO BUILDING PLANS FOR ALL BUILDING DIMENSIONS AND LAYOUT DETAILS
4. THE TYPICAL PARKING SPACE IS 9' WIDE BY 20' DEEP FOR PARKING SPACES.
5. THE HANDICAP ACCESSIBLE PARKING SPACES (9'X20') ARE TO BE IN ACCORDANCE WITH ADA SPECIFICATIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED CONSTRUCTION LINE AND GRADE TO ENSURE ACCURATE LAYOUT OF SITE IMPROVEMENTS.
7. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING PROPERTY CORNER MONUMENTS. ANY PROPERTY CORNER MONUMENT DISTURBED OR DESTROYED DURING CONSTRUCTION ACTIVITY SHALL BE REPLACED BY AN INDIANA LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE.
8. CONTRACTOR IS RESPONSIBLE FOR PROTECTING BENCHMARKS. IF BENCHMARKS ARE TO BE DISTURBED OR REMOVED AS PART OF THE DEMOLITION PLAN ACTIVITY, CONTRACTOR SHALL HAVE A INDIANA LICENSED SURVEYOR ESTABLISH ANOTHER BENCHMARK AT A LOCATION OUT OF HARM'S WAY.
9. ANY DISCREPANCIES IN LAYOUT DIMENSIONS SHALL BE REPORTED TO THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH WORK AT THAT LOCATION.

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ELEV. 654.48

TBM #2: RAILROAD SPIKE IN SOUTHEAST SIDE OF UTILITY POLE AT SOUTHWEST CORNER OF PROPERTY.
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ORIGINATING BENCHMARK
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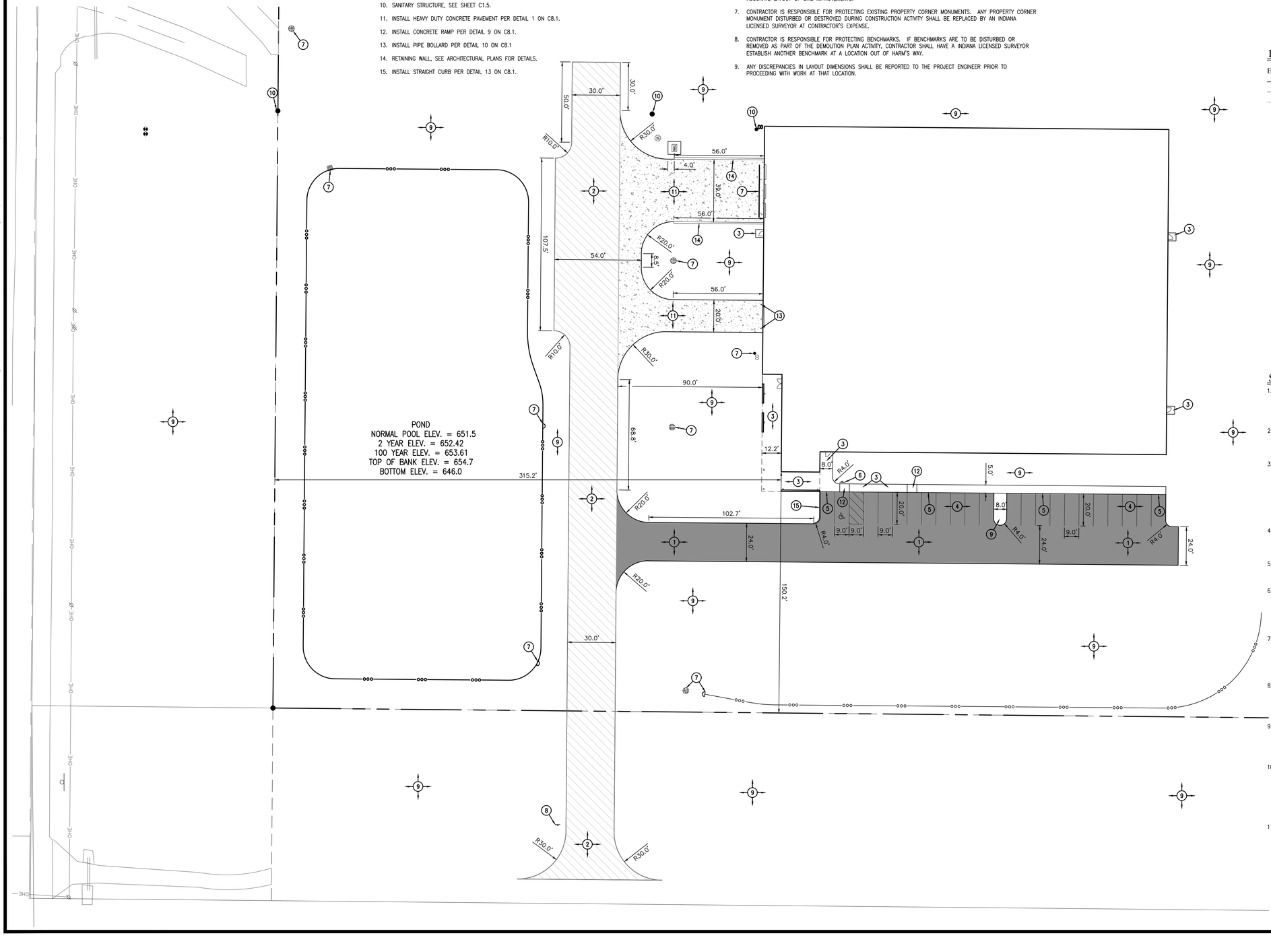

LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
OHE	OVERHEAD ELECTRIC LINE	
	SWALE	
	NORMAL POOL	
	CLEANOUT	
S	SANITARY MANHOLE	
	STORM INLET	
	BENCHMARK	
	MONUMENT	
	SIGN	
	UTILITY POLE	
	FIRE HYDRANT	
	WATER VALVE	
	WATER METER	W
	TRANSFORMER	TRAN
	HEAVY DUTY ASPHALT PAVEMENT	
	REGULAR DUTY ASPHALT PAVEMENT	
	CONCRETE HATCH	

SITE IMPROVEMENT GENERAL NOTES:

1. ALL EXCAVATED TRENCHES UNDER PROPOSED PAVED AREAS INCLUDING SIDEWALKS SHALL BE BACKFILLED WITH GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATIONS, SECTION 211, AND COMPACTED IN LIFTS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE LIMITS OF THE PAVEMENT AT THE SURFACE WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.
2. WHERE NECESSARY, UTILITY SERVICE CONDUITS SHALL BE INSTALLED UNDER PAVED AREAS AND BACKFILLED AS SPECIFIED ABOVE BEFORE PAVEMENT IS CONSTRUCTED. COORDINATE CONDUIT REQUIREMENTS WITH UTILITY COMPANIES AND MECHANICAL CONTRACTORS.
3. FOLLOWING THE COMPLETION OF ALL UNDERGROUND WORK IN PAVED AREAS, AGGREGATE BASE SHALL BE APPLIED AND COMPACTED TO THE THICKNESS INDICATED ON THE APPROPRIATE PAVEMENT DESIGN DETAIL. COMPACT BASE COURSE AT OPTIMUM MOISTURE CONTENT TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D-1557. WHEN THICKNESS OF COMPACTED BASE EXCEEDS 6 INCHES, PLACE MATERIALS IN EQUAL LAYERS, WITH NO LAYER MORE THAN 6 INCHES OR LESS THAN 3 INCHES THICK WHEN COMPACTED. COMPACT WITH A MEDIUM WEIGHT SMOOTH WHEELED ROLLER OR EQUIVALENT. ALONG CURBS, WALLS AND ALL LOCATIONS NOT ACCESSIBLE TO THE ROLLER, COMPACT AGGREGATE BASE WITH HAND OPERATED TAMPERS.
4. BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS, SECTION 400. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS, SECTION 500. SEE CONSTRUCTION DETAILS FOR PAVEMENT DESIGN INFORMATION.
5. THE CONNECTION OF NEW PAVEMENT TO EXISTING PAVEMENT IN THE PARKING LOTS AND DRIVEWAYS SHALL MATCH EXISTING GRADES AND PROFILES. A LAP JOINT IS REQUIRED FOR CONNECTIONS BETWEEN EXISTING AND PROPOSED BITUMINOUS PAVEMENTS.
6. UNLESS NOTED OTHERWISE, ALL PAVEMENT STRIPING WITHIN THE PROJECT SITE SHALL BE PAINTED WITH WHITE LATEX, WATERBORNE EMULSION, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TT-P-1952. APPLY PAINT WITH MECHANICAL EQUIPMENT AND/OR STENCILS TO PRODUCE CLEAN, STRAIGHT AND UNIFORM EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES TO PRODUCE A MINIMUM 12 TO 15 MILS DRY THICKNESS.
7. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-150. ONLY ONE BRAND AND MANUFACTURER OF APPROVED CEMENT SHALL BE USED FOR ANY ONE STRUCTURE. REGULAR FINE AND COARSE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-33. ALL WATER USED SHALL BE POTABLE, CLEAN AND FREE FROM OILS, ACIDS, ALKALIS, ORGANIC MATERIAL OR OTHER SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OR STEEL.
8. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60. WELDED WIRE FABRIC OR WIRE MESH SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-185. REINFORCEMENT SHALL BE CUT AND BENT IN ACCORDANCE WITH ACI 315. COMPLY WITH ARSI RECOMMENDED PRACTICE "PLACING REINFORCING BARS" FOR PLACING AND SUPPORTING REINFORCEMENT.
9. ALL CONCRETE USED ON THIS PROJECT SHALL BE CLASS A STRUCTURAL CONCRETE WITH A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, 6-1/2 BAGS, 2 TO 4 INCH SLUMP RANGE, 5% TO 8% AIR CONTENT. CLASS A CONCRETE SHALL BE PROPORTIONED IN ACCORDANCE WITH ACI 211.1. ALL READY MIXED CONCRETE SHALL BE MIXED, DELIVERED, AND PLACED IN ACCORDANCE WITH ASTM C-94.
10. FORMS SHALL BE CONSTRUCTED OF WOOD, PLYWOOD, STEEL, OR OTHER APPROVED MATERIALS AND SHALL BE MORTAR TIGHT. THE FORMS AND ASSOCIATED FALSEWORK SHALL BE SUBSTANTIAL AND UNYIELDING AND SHALL BE CONSTRUCTED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE DIMENSIONS AND CONTOURS SHOWN ON THE DRAWINGS. FORM SURFACES SHALL BE SMOOTH AND FREE FROM HOLES, DENTS, SAGS, AND OTHER IRREGULARITIES. THE FORMS SHALL BE COATED WITH A NON-STAINING OIL BEFORE CONCRETE IS POURED. REMOVE FORMS A MINIMUM OF 24 HOURS AFTER PLACING CONCRETE.
11. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 304. FORMED CONCRETE SHALL BE UNIFORMLY CONSOLIDATED USING A MECHANICAL VIBRATOR. COMPLY WITH THE RECOMMENDATIONS OF ACI 306R FOR COLD WEATHER PLACEMENT AND ACI 305R FOR HOT WEATHER PLACEMENT. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND TO ENSURE PROPER MOISTURE CONTROL DURING CURING.

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GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

REVISIONS		
DATE	DESCRIPTION	BY
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VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
SITE IMPROVEMENTS PLAN

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER
Travis P Gaither

DRAWN BY	JOB NUMBER 2015-186
TD	
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	
SHEET	
C1.3	
SITE IMPROVEMENTS PLAN	

Plot Date: Jun 07, 2016 Plot Time: 10:17am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Infra\Design\CAD\15186.Site Improvements Plan.dwg, Layout: C1.3 By: tdavis

EARTHWORK NOTES:

1. EARTHWORK SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 200 OF THE INDOT STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER'S OFFICE AND THE OWNER AT LEAST 48 HOURS BEFORE BEGINNING EXCAVATION.

2. THE CONTRACTOR SHALL EMPLOY A QUALIFIED GEOTECHNICAL ENGINEER FOR THIS PROJECT. THE GEOTECHNICAL ENGINEER WILL INSPECT SOIL CONDITIONS, PROOF-ROLLING, AND FIELD DENSITY OF COMPACTED FILLS. ALL SUBGRADES AND FILLS SHALL MEET OR EXCEED THE SPECIFIED DENSITIES, AS DISCUSSED BELOW. BASED UPON REPORTS FROM THE GEOTECHNICAL ENGINEER, SUBGRADES OR FILLS WHICH ARE BELOW SPECIFIED DENSITIES WILL REQUIRE ADDITIONAL COMPACTION WORK AND TESTING AT NO ADDITIONAL EXPENSE TO THE OWNER. COMPACTION TESTS SHALL BE TAKEN AT RANDOM INTERVALS AND ELEVATIONS THROUGHOUT THE FILL EMBANKMENTS.

3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE DURING FINISH GRADING AND LANDSCAPE WORK. STRIPPED TOPSOILS SHALL BE STOCKPILED AS SHOWN IN STORMWATER POLLUTION PREVENTION PLAN. TOPSOIL IS DEFINED AS FERTILE, FRIABLE NATURAL LOAM SURFACE SOILS, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, AND OTHER LITTER OR STONES LARGER THAN 1/2 INCH. LOOSE DEBRIS, TOPSOILS AND UNSUITABLE SUBSOILS SHALL BE STRIPPED FROM AREAS OF THE SITE THAT ARE TO BE DEVELOPED. THE DEPTH OF STRIPPING OF SURFACE SOILS MAY VARY BY LOCATION WITHIN THE SITE. THE ENGINEER SHALL DESIGNATE ON-SITE LOCATIONS TO STORE OR DEPOSIT STRIPPED SOILS. CONTRACTOR SHALL REMOVE TOPSOILS AND UNSUITABLE SUBSOILS FROM ALL AREAS TO BE OCCUPIED BY BUILDINGS AND PAVEMENTS. IN ADDITION, ANY AREAS TO BE UTILIZED AS BORROW AREAS FOR FILL MATERIAL MUST ALSO BE STRIPPED OF TOPSOILS. A MINIMUM OF 6 INCHES OF TOPSOIL SHALL BE REPLACED IN LAWN AND LANDSCAPED AREAS. IF THE AMOUNT OF STOCKPILED TOPSOIL EXCEEDS QUANTITY REQUIRED, THE EXCESS SHALL BE SPREAD ON THE SITE WHERE DIRECTED BY THE ENGINEER OR DISPOSED OF OFFSITE.

4. ALL COMPACTED FILL MATERIAL SHALL BE SATISFACTORY BORROW SOILS APPROVED BY THE GEOTECHNICAL ENGINEER. ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER, LARGE ROCK GREATER THAN 3 INCHES, RUBBISH, OR OTHER UNSUITABLE MATERIAL. SAMPLES OF THE FILL MATERIALS SHALL BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO PLACEMENT. ALL FILL EMBANKMENTS UNDER PAVED AREAS, SIDEWALKS, AND PADS SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM DENSITY TEST D698. THE TOP 12 INCHES OF BUILDING SUBGRADE AND EACH 8 INCH LAYER OF BUILDING FILL EMBANKMENTS SHALL BE COMPACTED TO 100% MAXIMUM DRY DENSITY. THE AREA OF COMPACTED FILL FOR THE BUILDING SHALL EXTEND AT LEAST 5 FEET BEYOND THE EXTERIOR WALLS. ALL OTHER FILLS SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY. FILL MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS AND SHOULD BE SPRINKLED WITH WATER AS REQUIRED TO ENSURE COMPACTION SPECIFICATIONS ARE MET. EXCESSIVELY WET MATERIAL SHALL BE SPREAD AND DRIED SUFFICIENTLY SO THAT THE MOISTURE CONTENT WILL PERMIT PROPER COMPACTION. EACH LAYER SHALL BE UNIFORMLY COMPACTED USING A VIBRATORY COMPACTOR OR OTHER APPROVED EQUIPMENT SUITED TO THE LOCATION AND MATERIAL BEING PLACED. LIFTS SHALL NOT EXCEED 4 INCHES IN LOOSE THICKNESS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS.

5. IN-PLACE DENSITY TESTS SHALL BE PERFORMED THROUGHOUT THE BUILDING FILL EMBANKMENTS. AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2000 SQ. FT OF BUILDING FILL OR SUBGRADE, BUT IN NO CASE FEWER THAN 3 TESTS. WHERE THE RESULTS OF THE IN-PLACE DENSITY TESTS INDICATE COMPACTION SPECIFICATIONS ARE NOT OBTAINED, OR WHERE APPROVED COMPACTED FILLS ARE DISTURBED BY THE CONTRACTOR'S SUBSEQUENT ACTIVITY OR ADVERSE WEATHER, THOSE AREAS SHALL BE REWORKED UNTIL COMPACTION CRITERIA ARE ACHIEVED. THE GEOTECHNICAL ENGINEER SHALL ISSUE A REPORT DOCUMENTING THE SUFFICIENCY OF THE FINAL COMPACTED FILL TO THE OWNER AND THE PROJECT ENGINEER.

6. AFTER THE PAVEMENT SUBGRADE SOILS HAVE BEEN FILLED AND COMPACTED, AND IN AREAS WHERE THE PAVEMENT SUBGRADE ELEVATIONS ARE ACHIEVED WITHOUT FILL OPERATIONS, THESE AREAS SHALL BE PROOF-ROLLED WITH A FULLY LOADED TRI-AXLE DUMP TRUCK, MEDIUM WEIGHT ROLLER OR OTHER APPROVED EQUIPMENT TO DETERMINE IF ANY POCKETS OF SOFT, UNSUITABLE MATERIALS ARE PRESENT. IF POCKETS OF UNSUITABLE MATERIALS ARE ENCOUNTERED, THEY SHALL BE REMOVED AND REPLACED WITH SPOT SUBGRADE REINFORCEMENT OR COMPACTED GRANULAR FILL. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING PROOF-ROLLING OPERATIONS AND SHALL SUBMIT A REPORT OF ACCEPTANCE TO THE ENGINEER AND OWNER.

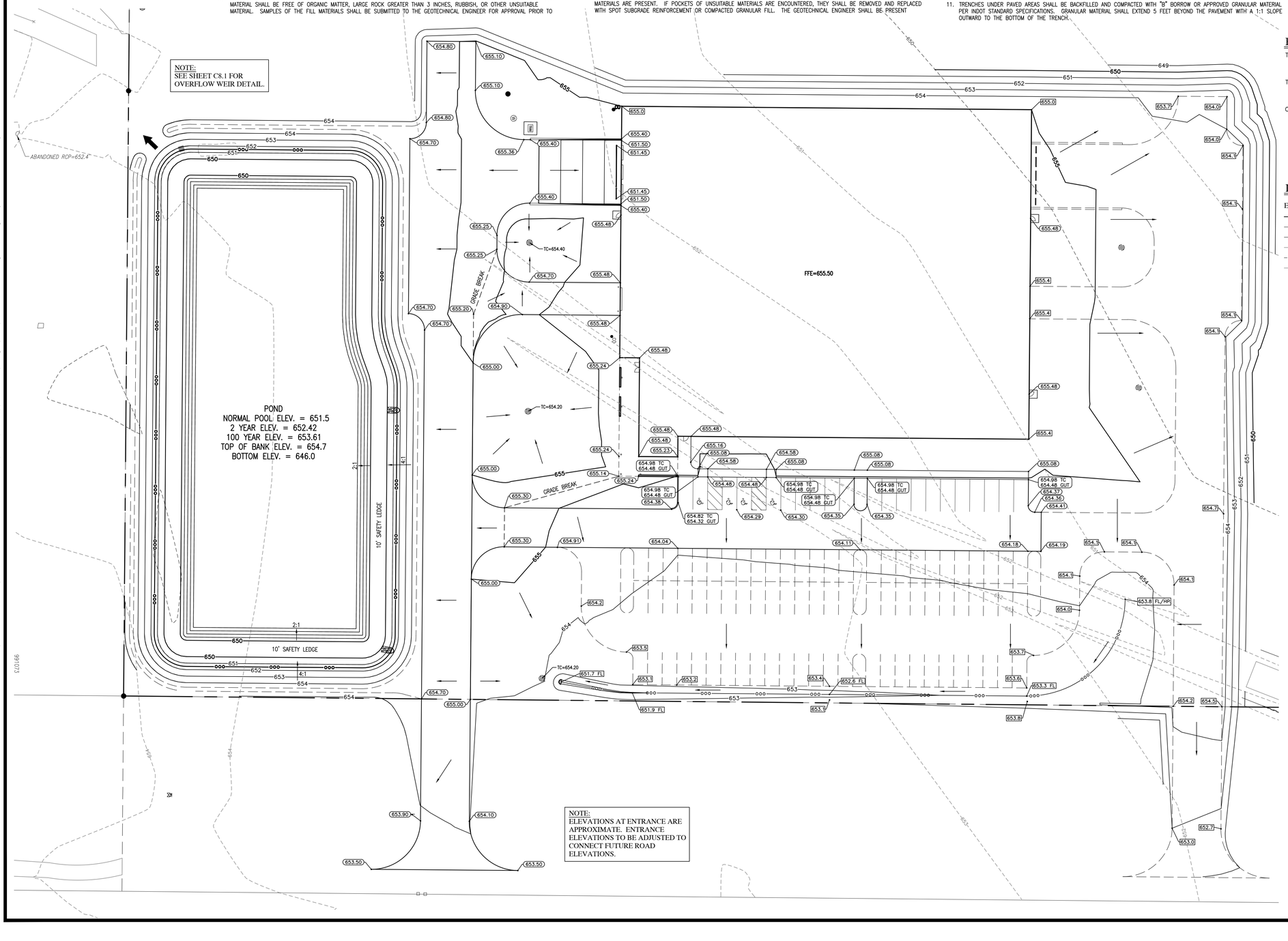
7. WHERE THE APPROVED COMPACTED SUBGRADES ARE DISTURBED BY CONTRACTOR'S SUBSEQUENT ACTIVITY OR ADVERSE WEATHER, THE SUBGRADES SHALL BE SCARIFIED AND RECOMPACTED AS SPECIFIED ABOVE PRIOR TO THE CONTINUATION OF CONSTRUCTION.

8. FOLLOWING THE COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED FOR SEEDING, SODDING, OR LANDSCAPING TO A MINIMUM DEPTH OF 6 INCHES. THE FINISHED SURFACE SHALL BE UNIFORMLY AND SMOOTHLY GRADED AND SHALL BE FREE OF DEPRESSED AREAS WHERE WATER WILL POND. LIGHTLY COMPACT TOPSOIL AFTER PLACEMENT. THE FINISHED SURFACE GRADES SHALL NOT BE MORE THAN 0.1 FOOT ABOVE OR BELOW THE GRADES INDICATED ON THE PLANS. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING GRADES AND ADJACENT FILL EMBANKMENTS.

9. EXCAVATE FOR STRUCTURES TO WITHIN 0.1 FOOT OF THE DESIGN ELEVATIONS AND DIMENSIONS. EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK. DO NOT DISTURB THE BOTTOM OF THE EXCAVATION INTENDED FOR BEARING SURFACE. EXCAVATE BY HAND TO FINAL GRADE BEFORE PLACING CONCRETE FORMWORK AND REINFORCEMENT SO FOOTINGS AND FOUNDATIONS BEAR ON UNDISTURBED COMPACTED SOILS.

10. BACKFILL MATERIAL SHALL BE FREE OF ROCKS, SLAG, RUBBLE AND DEBRIS. BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES LOOSE THICKNESS AND THOROUGHLY COMPACTED BY TAMPING OR ROLLING. WHERE BACKFILLING IS REQUIRED ON BOTH SIDES OF A FOUNDATION WALL, THE BACKFILL MATERIAL SHALL BE PLACED EQUALLY ON BOTH SIDES TO AVOID UNBALANCED SOIL PRESSURE ON ONE SIDE OF THE WALL.

11. TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED AND COMPACTED WITH "B" BORROW OR APPROVED GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATIONS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE PAVEMENT WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.



BENCHMARK INFORMATION:

TBM #1: RAILROAD SPIKE IN SOUTHWEST SIDE OF LIGHT POLE AT SOUTHEAST CORNER OF PROPERTY.
ELEV. 654.48

TBM #2: RAILROAD SPIKE IN SOUTHEAST SIDE OF UTILITY POLE AT SOUTHWEST CORNER OF PROPERTY.
ELEV. 648.06

ORIGINATING BENCHMARK
ELEV. 646.65 – SOUTHEAST CORNER OF S.R. 63 AND BROADWAY STREET.

LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
ooo	SWALE / FLOWLINE	ooo
OHE	OVERHEAD ELECTRIC LINE	
800	CONTOUR, MAJOR	800
799	CONTOUR, MINOR	799
	SWALE	ooo
	NORMAL POOL	ooo
S	SANITARY MANHOLE	
	STORM MANHOLE	
	STORM INLET	
	STORM END SECTION	
	FIRE HYDRANT	
	SPOT ELEVATION	XXX.X
N/A	PAVEMENT ELEVATION	XXX.XX
	TOP OF CURB GUTTER	XXX.XX TC XXX.XX GUT
	BENCHMARK	
	WATER VALVE	
	GAS VALVE	
	CLEAN OUT	
	MONUMENT	
	WATER METER	W
	SIGN	
	TELEPHONE RISER	
	UTILITY POLE	
	FLOW ARROW	
	EMERGENCY OVERFLOW	

FL FLOW LINE
FFE FINISHED FLOOR ELEVATION
NP NORMAL POOL (ELEVATION)
TC TOP OF CASTING GRADE / TOP OF CURB
GUT GUTTER GRADE

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GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

REVISIONS

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VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
SITE GRADING PLAN

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER
Travis P Gaither

DRAWN BY TD	JOB NUMBER 2015-186
CHECKED BY TG	
DATE APRIL 22, 2016	
SCALE AS SHOWN	
SHEET C1.4	

SITE GRADING PLAN

Plot Date: Jun 07, 2016 Plot Time: 10:17am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Infra\Design\CAD\15186.Site Grading Plan.dwg, Layout: C1.4 By: tdavis

SITE UTILITY PLAN KEYNOTES: (#)

SANITARY SEWER

S1. INSTALL 6" SDR-35 SANITARY LATERAL AT 1.0% MIN. SLOPES. LATERAL INVERT ELEVATION AT BUILDING SHALL BE NO HIGHER THAN 650.50. PROVIDE CLEAN OUT WITHIN 5' OF BUILDING. VERIFY LOCATION WITH PLUMBING PLANS.

S2. INSTALL DOGHOUSE SANITARY SEWER MANHOLE PER DETAIL 1 ON C8.2.

WATER SERVICE

W1. TAP INTO EXISTING 8" POTABLE WATERMAIN WITH 2" TAPPING SLEEVE, VALVE AND BOX.

W2. 2" DOMESTIC SERVICE LINE TO ENTER BUILDING. VERIFY LOCATION WITH PLUMBING PLANS.

W3. INSTALL WATER METER PIT PER DETAIL 13 ON C8.2.

W4. TAP INTO EXISTING 8" FIRE WATERMAIN WITH 8" TAPPING SLEEVE, VALVE AND BOX.

W5. 8" FIRE SERVICE LINE TO ENTER BUILDING. VERIFY LOCATION WITH PLUMBING PLANS.

W6. INSTALL FITTINGS AS NECESSARY TO CROSS BELOW EXISTING 8" POTABLE WATER MAIN.

GAS SERVICE

G1. NEWPORT CHEMICAL DEPOT REUSE AUTHORITY TO EXTEND 2" GAS SERVICE LINE TO SITE.

G2. CONTRACTOR TO INSTALL PROPOSED 2" SERVICE LATERAL TO BUILDING. SEE PLUMBING PLANS TO VERIFY LOCATION.

ELECTRIC SERVICE

E1. INSTALL NEW UNDERGROUND ELECTRIC LINE FROM EXISTING UTILITY POLE TO TRANSFORMER PAD. CONTRACTOR TO COORDINATE WITH ELECTRIC COMPANY PRIOR TO INSTALLATION OF ELECTRIC LINE AND TRANSFORMER PAD. LINES TO BE RUN THROUGH 4-INCH CONDUIT WITH PULL STRING.

E2. INSTALL NEW UNDERGROUND LINE FROM TRANSFORMER PAD TO BUILDING. LINES TO BE RUN THROUGH 4-INCH CONDUIT WITH PULL STRING.

E3. INSTALL TRANSFORMER PAD PER DUKE ENERGY STANDARDS. A REPRESENTATIVE FROM DUKE ENERGY SHALL INSPECT TRANSFORMER PAD AFTER FORMS AND REBAR HAVE BEEN PLACE, BUT PRIOR TO THE CONCRETE BEING POURED.

E4. PROVIDE ELECTRICAL CONNECTION TO SUMP PUMP IN STRUCTURE 112. MEP TO SPECIFY ELECTRICAL DESIGN.

WATER SYSTEM NOTES:

1. DOMESTIC SERVICE LINE SHALL BE CONSTRUCTED PER AWWA C800 SPECIFICATIONS IF COPPER OR AWWA C901-02 SPECIFICATIONS IF PLASTIC. FIRE SERVICE LINE SHALL BE CONSTRUCTED PER AWWA C900 SPECIFICATIONS. ALL LINES SHALL MEET THE MINIMUM REQUIREMENTS OF THE INDIANA STATE BOARD OF HEALTH.

2. THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL GATE VALVES. VALVES SHALL BE INSTALLED WITH VALVE BOX ALIGNERS (POSI-CAPS) AND MUST BE CENTERED PRIOR TO ACCEPTANCE. VALVE OPENING DIRECTION SHALL BE RIGHT-HAND OPEN/COUNTERCLOCKWISE.

3. WATER MAINS AND SERVICE LINES SHALL HAVE A MINIMUM OF 4'-6" OF COVER OVER THE TOP OF THE PIPE. A MINIMUM OF 18-INCHES VERTICAL SEPARATION AND 10-0" HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS AND SEWERS (SANITARY AND STORM). PIPE DEPTHS SHOWN ON THESE PLANS ARE REFERENCED TO THE INVERT OF PIPE.

4. THE CONTRACTOR SHALL PERFORM ALL THE WORK ASSOCIATED WITH CONNECTIONS TO THE EXISTING FACILITIES. THE CONTRACTOR SHALL COORDINATE THE CLOSURE OF VALVES, INSPECTION, AND ALL SERVICE SHUT-OFFS WITH NEWPORT CHEMICAL DEPOT REUSE AUTHORITY.

5. TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED AND COMPACTED IN LIFTS WITH "B-BORROW" OR APPROVED GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATION SECTION 211 SPECIFICATIONS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE LIMITS OF THE PAVED AREA WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.

6. THE COMPLETED WATER LINE SHALL BE TESTED AND DISINFECTED PER AWWA C650 SPECIFICATIONS.

SANITARY SEWER NOTES:

1. THE SANITARY SEWER SHALL MEET THE REQUIREMENTS OF THE NEWPORT CHEMICAL DEPOT REUSE AUTHORITY, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM) AND INDIANA STATE DEPARTMENT OF HEALTH FOR SANITARY SEWER COLLECTION SYSTEMS.

2. SANITARY SEWER LATERAL SHALL BE 6" DIAMETER PVC SDR-35 CONFORMING TO ASTM D-3034, LAID AT A MINIMUM SLOPE OF 1.00%.

3. THE COMPLETED SANITARY SEWER SHALL BE HIGH PRESSURE WATER JET CLEANED AND TESTED IN ACCORDANCE WITH NEWPORT CHEMICAL DEPOT REUSE AUTHORITY REQUIREMENTS. ALL COSTS OF CLEANING AND TESTING ARE TO BE BORNE BY THE CONTRACTOR.

4. A MINIMUM OF 18" VERTICAL SEPARATION AND 10'-0" HORIZONTAL SEPARATION TO BE MAINTAINED BETWEEN THE WATER MAINS, HYDRANTS AND SEWERS (SANITARY AND STORM).

5. TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATION SECTION 211 SPECIFICATIONS AND COMPACTED IN LIFTS. GRANULAR MATERIAL SHALL EXTEND 5 FT BEYOND THE LIMITS OF THE PAVED AREA WITH A 1:1 OUTWARD SLOPE TO THE BOTTOM OF THE TRENCH.

6. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND THE PIPE INVERT DEPTH WHERE THE PROPOSED CONNECTION IS MADE TO THE EXISTING SANITARY SEWER. VERTICAL DEVIATIONS GREATER THAN 0.1 FT. AND HORIZONTAL DEVIATIONS GREATER THAN 1.0 FT. SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION AT THAT LOCATION.

STORM SEWER NOTES:

1. CONSTRUCTION OF STORM DRAINS SHALL BE IN ACCORDANCE WITH SECTION 715 OF THE INDOT STANDARD SPECIFICATIONS. ALL MAIN LINE STORM SEWER PIPE SHALL BE CONSTRUCTED OF REINFORCED CONCRETE PIPE (RCP) PIPE. STORM DRAIN PIPE FOR ROOF DOWNSPOUT AND OTHER MISCELLANEOUS CONNECTIONS SHALL BE CONSTRUCTED OF SMOOTH DOUBLE WALL HIGH DENSITY POLYETHYLENE (HDPE), IF APPLICABLE.

2. TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED AND COMPACTED WITH "B" BORROW OR APPROVED GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATION SECTION 211 SPECIFICATIONS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE PAVEMENT WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.

3. ALL STORM DRAINS CROSSING WITHIN 18" VERTICALLY OF A SANITARY SEWER OR WATER MAIN SHALL HAVE A CONCRETE SPACER BLOCK POURED BETWEEN THE PIPES. WHERE WATER LINES AND SEWER LINES RUN PARALLEL WITH EACH OTHER, A MINIMUM OF 10 FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED.

4. JOINTS SHALL BE GASKETED BELL AND SPIGOT TYPE WITH THE BELL END MADE INTEGRAL WITH THE PIPE. PIPE MATERIAL SUBSTITUTIONS SHALL BE REQUESTED IN WRITING TO THE ENGINEER. INLETS, JUNCTION BOXES, AND MANHOLES MUST BE SIZED PROPERLY TO ACCOMMODATE THE PIPES CALLED FOR.

5. PIPE LENGTHS SHOWN ON THE DRAWINGS ARE FOR HYDRAULIC CALCULATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING EXACT PIPE LENGTHS REQUIRED FOR INSTALLATION.

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GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

LEGEND:

EXISTING		PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
ooo	SWALE / FLOWLINE	ooo
S	SANITARY SEWER	S
ST	STORM SEWER	ST
W	WATER MAIN	W
G	GAS SERVICE	G
	ELECTRIC SERVICE	E
OHE	OVERHEAD ELECTRIC LINE	
	SWALE	ooo
	NORMAL POOL	ooo
S	SANITARY MANHOLE	XXX
	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
	BENCHMARK	
	WATER VALVE	
	WATER METER	W
	GAS VALVE	
	CLEAN OUT	CO
	MONUMENT	
	SIGN	
	UTILITY POLE	
	TRANSFORMER	Trans
RCP	REINFORCED CONCRETE PIPE	
PVC	POLYVINYL CHLORIDE PIPE	
INV	INVERT ELEVATION	
	RIP RAP	

UTILITY NOTES:

1. THE PROPOSED BUILDINGS SHALL BE CONSTRUCTED ACCORDING TO ARCHITECTURAL CONSTRUCTION PLANS PREPARED BY:
BLDD ARCHITECTS
17 E. TAYLOR ST.
CHAMPAIGN, ILLINOIS 61820

MECHANICAL, ELECTRICAL, AND PLUMBING PLANS PREPARED BY:
SYCAMORE ENGINEERING
1010 CHESTNUT ST.
TERRE HAUTE, IN 47807

REFER TO ARCHITECTURAL PLANS FOR ALL INFORMATION REGARDING UTILITY LAYOUT AND DETAILS WITHIN THE BUILDING AND EXTENDING OUT 5' FROM EXTERIOR FACE OF BUILDING. ALL MEP DESIGN AND COORDINATION IS THE RESPONSIBILITY OF ARCHITECT/CONTRACTOR. SITE WORK CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO START OF WORK.

2. SEE ARCHITECTURAL AND MECHANICAL PLANS FOR INFORMATION.

3. ALL EXCAVATED TRENCHES UNDER PROPOSED PAVED AREAS INCLUDING SIDEWALKS SHALL BE BACKFILLED WITH GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATION SECTION 211 SPECIFICATIONS AND COMPACTED IN LIFTS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE LIMITS OF THE PAVED AREAS AT THE SURFACE WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.

194 LF OF 8" PVC
8" FIRE WATER SERVICE
233 LF OF 8" PVC
78 LF OF 6" SDR-35 PVC @ 1.00% MIN.
SANITARY CLEANOUT STR.
TC: 655.1
2" DOMESTIC WATER SERVICE
151 LF OF 12" RCP @ 0.00%
ABANDONED RCP=652.4'
15"RCP=650.7'
15"RCP=651.3'
15"CMP=651.0'
15"CMP=651.4'
TRENCH DRAIN
ACO POWERDRAIN S200K
TC: 651.45
INV: 650.78 (SK2-1)
(10) SEGMENTS OF S200K SLOPED TRENCH DRAIN
TRENCH DRAIN
ACO POWERDRAIN S200K
TC: 651.45
INV: 650.61 (SK2-10)
INV OUT: 650.61 (6" ROUND END OUTLET)
73 LF OF 6" HDPE @ 0.57%
104 LF OF 2" HDPE @ 0.48%
STORM CLEANOUT STR.
TC: 655.4
INV: 652.10 (12" HDPE)
75 LF OF 12" HDPE @ 0.40%
81 LF OF 18" RCP @ 0.37%
94 LF OF 18" RCP @ 0.19%
FUTURE STORM LINE TO CONNECT TO STR. 121
12 LF OF 18" RCP @ 0.19%
STR. #S1 3 SANITARY MH TC: 654.21 INV IN: 639.4 (8" PVC-W) INV OUT: 639.4 (8" PVC-W)
STR. #T1 2 CATCH BASIN TC: 653.89 INV OUT: 651.1 (10" RCP-E)
STR. #T1 3 CATCH BASIN TC: 650.7 INV IN: 650.7 (10" RCP-W) INV OUT: 650.7 (10" RCP-E)
POND
NORMAL POOL ELEV. = 651.5
2 YEAR ELEV. = 652.42
100 YEAR ELEV. = 653.61
TOP OF BANK ELEV. = 654.7
BOTTOM ELEV. = 646.0
991072 W
980.219
FNC_LINE NS

REVISIONS		
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LAFAYETTE - SCOTTSBURG
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DRAWN BY TD	JOB NUMBER 2015-186
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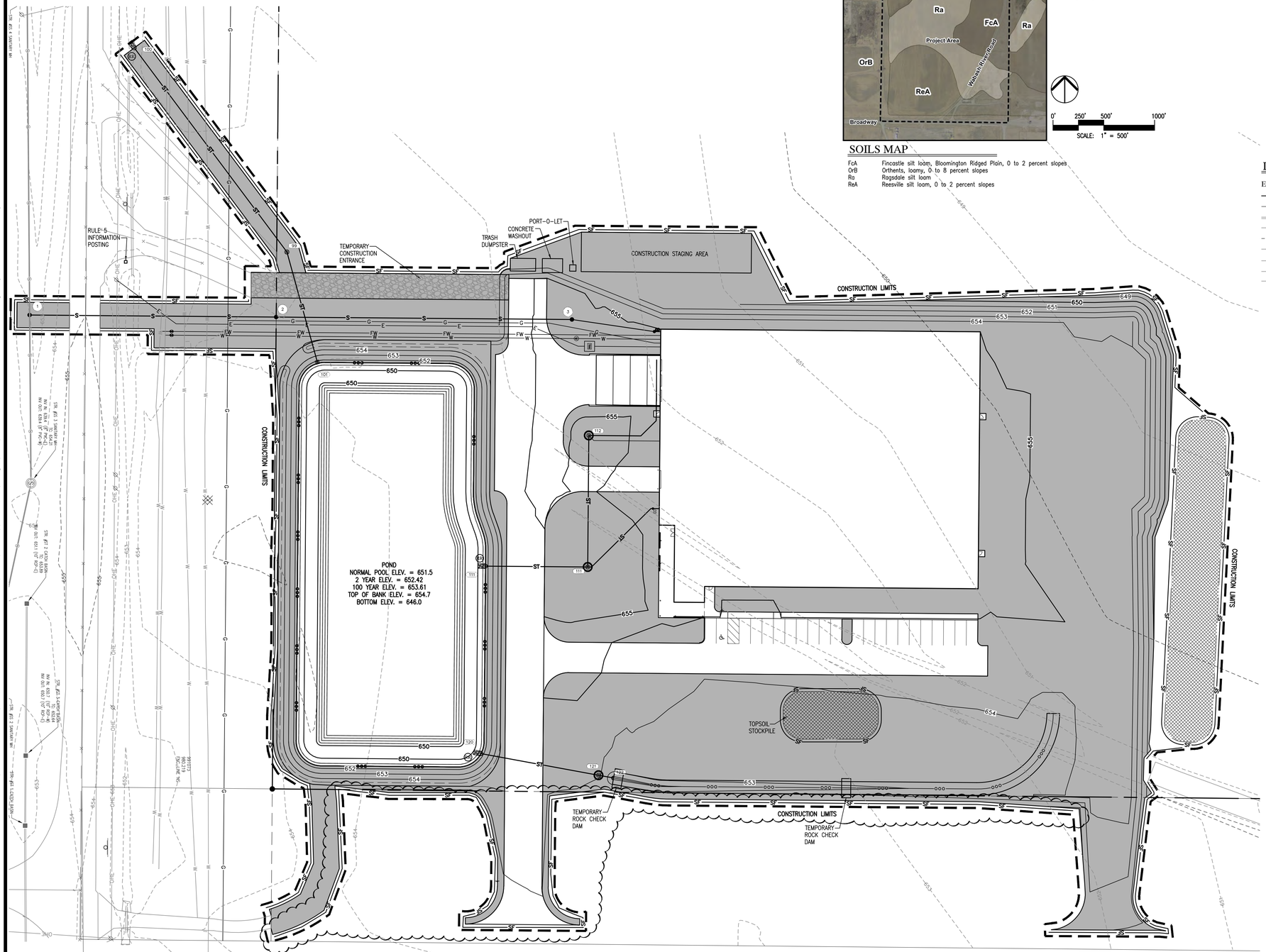
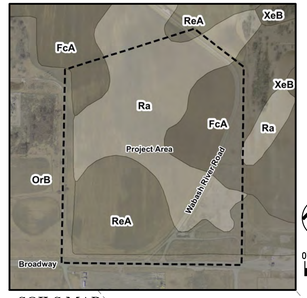
SCALE AS SHOWN	

SHEET
C1.5
SITE DRAINAGE AND UTILITY PLAN

Plot Date: Jun 07, 2016 Plot Time: 10:18am File Name: W:\Vermilion Co RA\2015-186 Vermilion Co RA- Newport Spec Support Infra\Design\CAD\15186 Site Drainage and Utility Plan.dwg, Layout: C1.5 By: tdavis





SOILS MAP

FcA	Fincastle silt loam, Bloomington Ridged Plain, 0 to 2 percent slopes
OrB	Orthents, loamy, 0 to 8 percent slopes
Ra	Ragsdale silt loam
ReA	Reesville silt loam, 0 to 2 percent slopes

0' 250' 500' 1000'
SCALE: 1" = 500'

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
DALE RILEY
GARMONG CONSTRUCTION SERVICES
3050 POPLAR ST.
TERRA HAUTE, IN 47803
(812) 234-3714

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GRAPHIC SCALE
0' 40' 80' 120'
(IN FEET)

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
	ST	STORM SEWER
OHE		OVERHEAD ELECTRIC LINE
800	800	CONTOUR, MAJOR
799	799	CONTOUR, MINOR
S	S	SANITARY SEWER
ST	ST	STORM SEWER
W	W	WATER MAIN
	FW	FIRE WATER
	G	GAS SERVICE
	E	ELECTRIC SERVICE
	T	TELEPHONE SERVICE
		SWALE
		NORMAL POOL
		CLEANOUT
S		SANITARY MANHOLE
		STORM INLET
		BENCHMARK
		MONUMENT
		SIGN
		UTILITY POLE
		FIRE HYDRANT
		WATER VALVE
W		WATER METER
TRANS		TRANSFORMER
		TEMPORARY ROCK CHECK DAM
RR		RIP RAP
		INLET PROTECTION SEE DETAIL 5 ON SHEET C8.0
SF SF		SILT FENCE
		CONSTRUCTION LIMITS
		PERMANENT SEEDING/SODDING
		EROSION CONTROL BLANKET
		TEMPORARY SITE CONSTRUCTION ENTRANCE
		TOPSOIL SALVAGE / UTILIZATION
		RIP RAP

STORMWATER POLLUTION PREVENTION NOTES:

LOCATION OF PROJECT

LONGITUDE 87°25'04" W
LATITUDE 39°51'13" N

VERMILLION TOWNSHIP, VERMILLION COUNTY, INDIANA.

RECEIVING WATER = WABASH RIVER – LITTLE RACOON CREEK

SEE SHEET C1.6, C8.0 FOR POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN AND NOTES
SEE SHEETS C1.2, C1.6 AND C8.0 FOR STORMWATER POLLUTION PREVENTION PLAN DETAILS AND NOTES

NOTE: PRIOR TO ANY WORK OCCURRING ON THE SITE, CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING WITH VERMILLION COUNTY SWCD, SITE OWNER, GENERAL CONTRACTOR, AND GRADING CONTRACTOR. EARTH MOVING OR DEMOLITION MAY NOT COMMENCE UNTIL PRE-CONSTRUCTION MEETING HAS OCCURRED AND PRE-CONSTRUCTION SCHEDULE OF EROSION CONTROL 1-6 HAVE BEEN COMPLETED IN ADDITION TO ELEMENTS DEPICTED IN PLAN.

RULE 5 REQUIRES ALL DISTURBED AREAS THAT WILL POTENTIALLY BE IDLE FOR 15 DAYS OR MORE BE STABILIZED IMMEDIATELY.

ADDITIONAL STORMWATER POLLUTION PREVENTION MAY BE REQUIRED IN THE FIELD BY THE VERMILLION COUNTY SWCD. ALL EROSION CONTROL MATERIALS MUST BE APPROVED BY VERMILLION COUNTY SWCD MS4 PRIOR TO INSTALLATION.

THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS IN THE STREETS.

APPROXIMATE CONSTRUCTION SCHEDULE:
START DATE: MAY 2016
COMPLETION DATE: MAY 2018

INDEX OF SWPPP ELEMENTS

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
POST CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER
Travis P. Gaither

DRAWN BY TD	JOB NUMBER 2015-186
CHECKED BY TG	
DATE APRIL 22, 2016	
SCALE AS SHOWN	

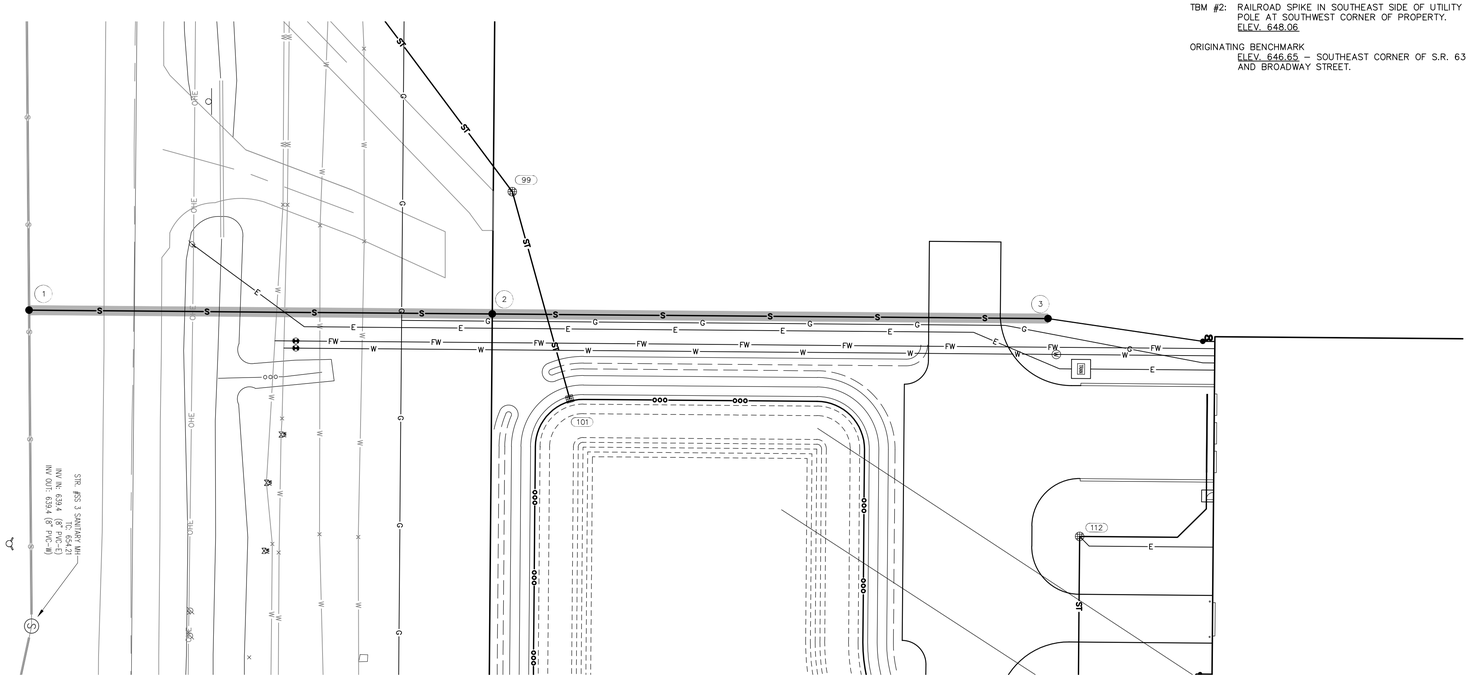
SHEET
C1.6
POST CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

Plot Date: Jun 07, 2016 Plot Time: 10:19am File Name: W:\Vermilion Co RA\2015-186 Vermilion Co RA- Newport Spec Support Infra\Design\CAD\15186 Post Construction SPP Plan.dwg, Layout: C1.6 By: tdavis

LEGEND:

EXISTING		PROPOSED
	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CENTERLINE	
	SWALE / FLOWLINE	
	SUBSURFACE DRAIN	
S	SANITARY SEWER	S
ST	STORM SEWER	ST
ST	STORM CULVERT	ST
W	WATER MAIN	W
(S)	SANITARY MANHOLE	XXX
(ST)	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
	PROFILED PIPELINE	S

EX – EXISTING
INV – INVERT ELEVATION
MH – MANHOLE
PVC – POLYVINYL CHLORIDE PIPE
TC – TOP OF CASTING GRADE



BENCHMARK INFORMATION:

TBM #1: RAILROAD SPIKE IN SOUTHWEST SIDE OF LIGHT POLE AT SOUTHEAST CORNER OF PROPERTY. ELEV. 654.48

TBM #2: RAILROAD SPIKE IN SOUTHEAST SIDE OF UTILITY POLE AT SOUTHWEST CORNER OF PROPERTY. ELEV. 648.06

ORIGINATING BENCHMARK
ELEV. 646.65 – SOUTHEAST CORNER OF S.R. 63 AND BROADWAY STREET.

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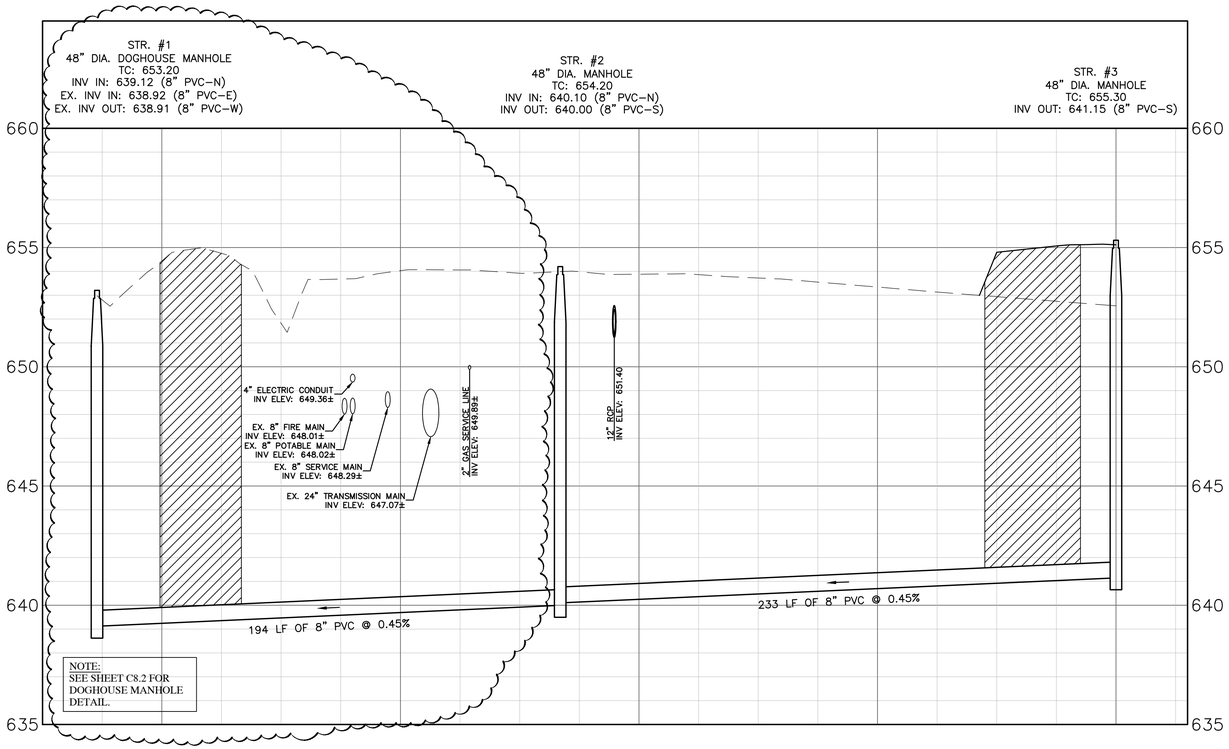
GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

SANITARY PROFILE
VERTICAL SCALE: 1" = 3'
HORIZONTAL SCALE: 1" = 30'



NOTE:
SEE SHEET C8.2 FOR DOGHOUSE MANHOLE DETAIL.

GRANULAR BACKFILL
EXISTING GRADE
PROPOSED GRADE

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG - MUNCIE
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
SANITARY SEWER PLAN & PROFILE

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

DRAWN BY	JOB NUMBER 2015-186
TD	
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	
SHEET	

C4.0
SANITARY SEWER PLAN & PROFILE

Plot Date: Jun 07, 2016 Plot Time: 10:19am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Info\Design\CAD\15186_Sanitary Plan.dwg, Layout: C4.0 By: tdavis

LEGEND:

EXISTING		PROPOSED
	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CENTERLINE	
ooo	SWALE / FLOWLINE	ooo
	SUBSURFACE DRAIN	
S	SANITARY SEWER	S
ST	STORM SEWER	ST
ST	STORM CULVERT	ST
W	WATER MAIN	W
(S)	SANITARY MANHOLE	XXX
(ST)	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
	PROFILED PIPELINE	ST

EX – EXISTING
INV – INVERT ELEVATION
MH – MANHOLE
RCP – REINFORCED CONCRETE PIPE
TC – TOP OF CASTING GRADE

BENCHMARK INFORMATION:

TBM #1: RAILROAD SPIKE IN SOUTHWEST SIDE OF LIGHT POLE AT SOUTHEAST CORNER OF PROPERTY. ELEV. 654.48

TBM #2: RAILROAD SPIKE IN SOUTHEAST SIDE OF UTILITY POLE AT SOUTHWEST CORNER OF PROPERTY. ELEV. 648.06

ORIGINATING BENCHMARK
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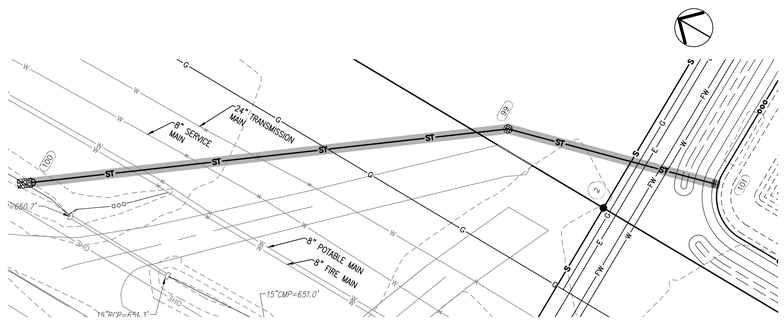
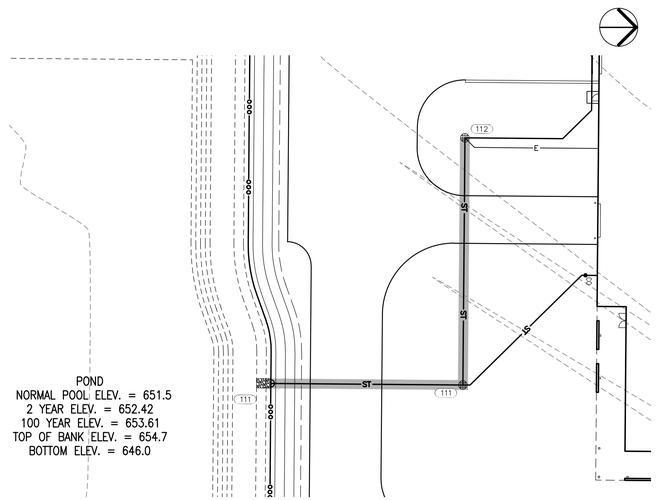
GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)



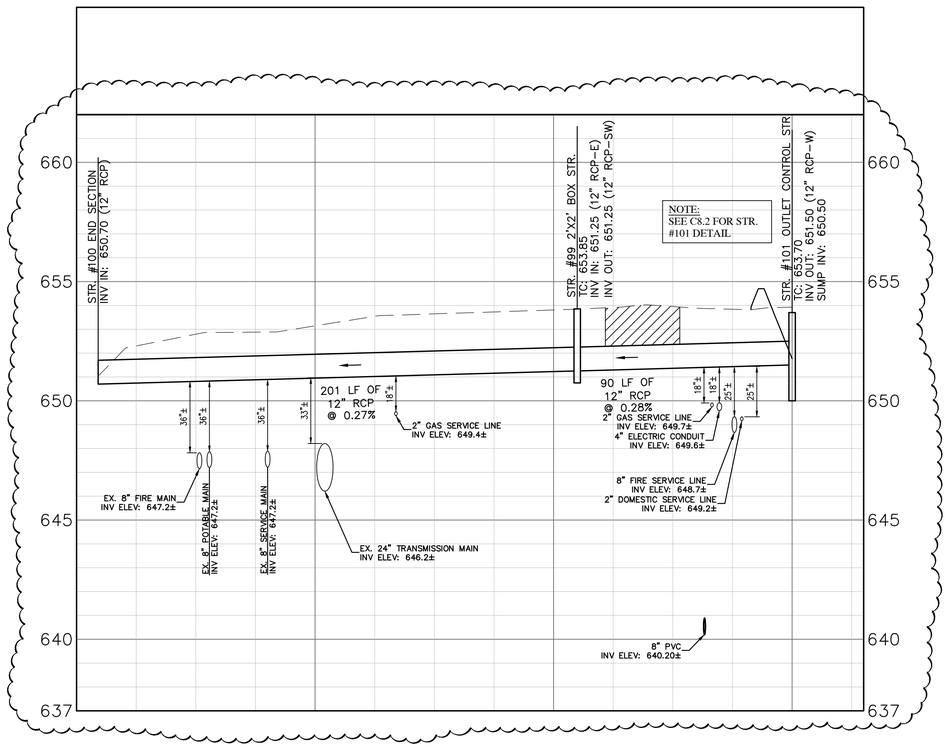


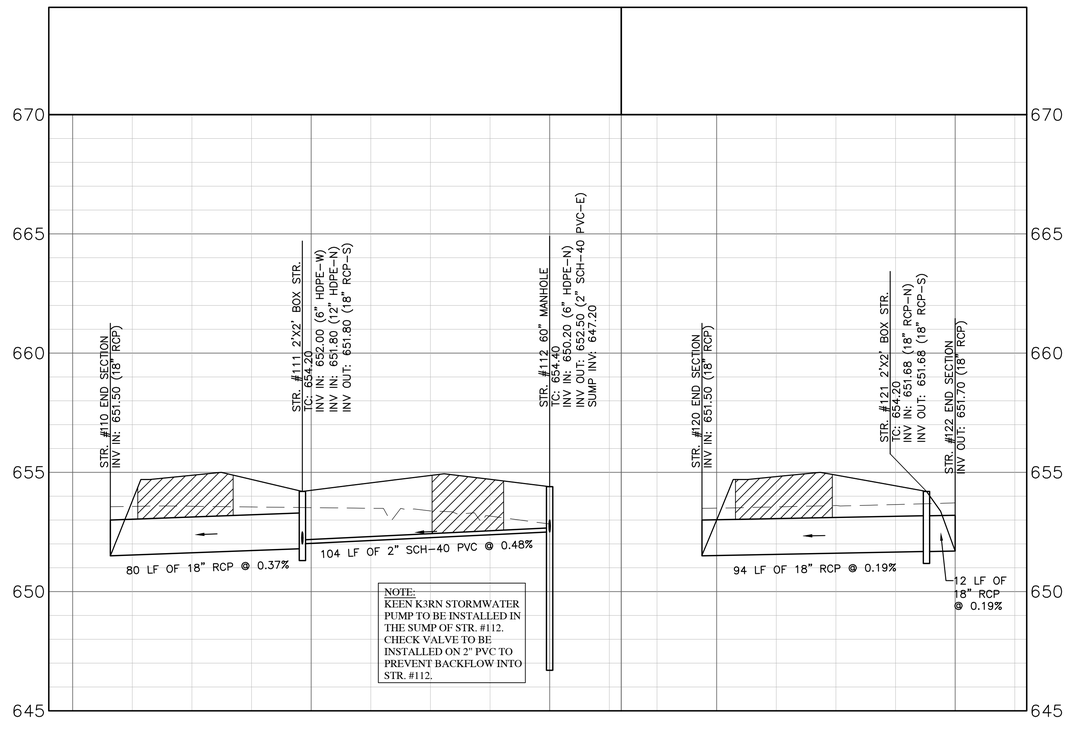
POND
NORMAL POOL ELEV. = 651.5
2 YEAR ELEV. = 652.42
100 YEAR ELEV. = 653.61
TOP OF BANK ELEV. = 654.7
BOTTOM ELEV. = 646.0

STORM PROFILE

VERTICAL SCALE: 1" = 3'
HORIZONTAL SCALE: 1" = 30'

GRANULAR BACKFILL
EXISTING GRADE
PROPOSED GRADE





REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

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VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
STORM SEWER PLAN & PROFILE

TRAVIS P. GAITHER
REGISTERED
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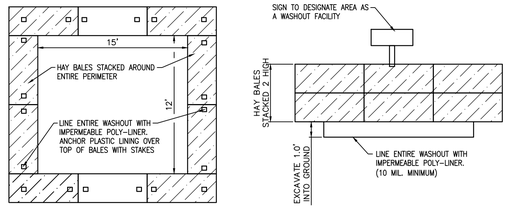
STATE OF INDIANA
PROFESSIONAL ENGINEER

DRAWN BY	JOB NUMBER 2015-186
TD	
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	

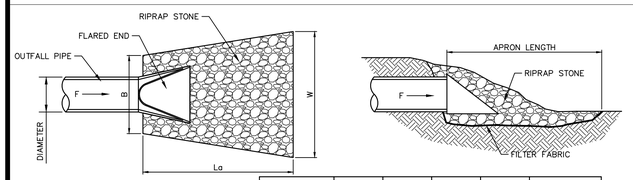
SHEET
C6.0
STORM SEWER PLAN & PROFILE

Plot Date: Jun 07, 2016 Plot Time: 10:20am File Name: W:\Vermillion Co. RA\2015-186 Vermillion Co RA- Newport Spec Support Info\Design\CAD\15186_Storm Plan.dwg Layout: C6.0 By: tdavis



NOTE: FACILITY TO BE LOCATED AWAY FROM STREAMS, PONDS, OR OTHER DRAINAGE WAYS.

1 CONCRETE WASHOUT DETAIL
NOT TO SCALE

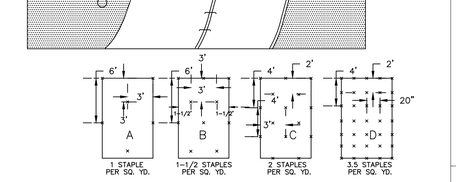


STR. NO.	PIPE SIZE	B(ft)	La(ft)	W(ft)	Thickness(in)
100	12"	3.0	6	9.0	1'-0"
111/120	18"	4.5	10	14.5	1'-0"

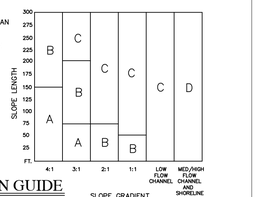
2 RIP-RAP PLACEMENT
NOT TO SCALE

SLOPE INSTALLATION

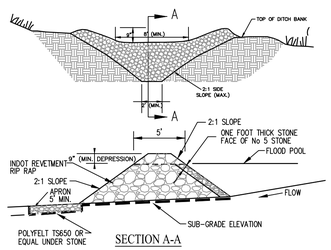
NOTES:
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM)) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.



STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS WILL VARY DEPENDING UPON SLOPE LENGTH, SLOPE GRADE, SOIL TYPE AND AVERAGE ANNUAL RAINFALL.



3 EROSION CONTROL BLANKET STAPLE PATTERN GUIDE
NOT TO SCALE

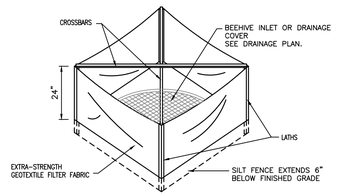


SECTION A-A

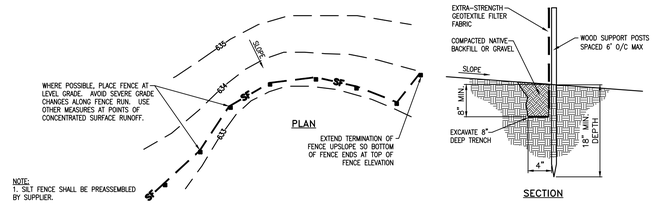
4 ROCK CHECK DAM
NOT TO SCALE

PRACTICE 3.74 – SILT FENCE

MAINTENANCE REQUIREMENTS:
1. INSPECT THE SILT FENCE PERIODICALLY AND AFTER EACH STORM EVENT, AND MAKE NEEDED REPAIRS IMMEDIATELY. REPLACE DAMAGED OR SAGGED PORTIONS OF THE FENCE.
2. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE, OR CAUSES APPRECIABLE BULGING.
3. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED; REMOVE THE FENCE AND OTHER CONSTRUCTION MATERIAL, DEPOSITED SEDIMENT, AND DISPOSE OF PROPERLY; BRING THE DISTURBED AREA TO GRADE AND STABILIZE THE AREA.

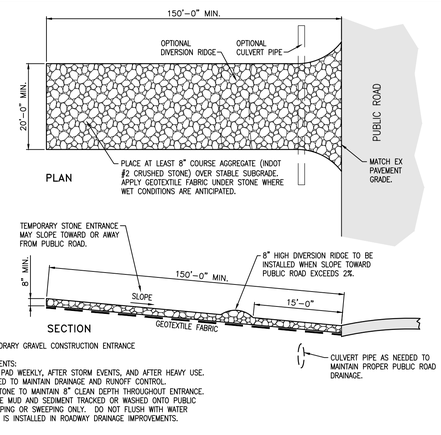


INLET PROTECTION



NOTE:
1. SILT FENCE SHALL BE PREASSEMBLED BY SUPPLIER.

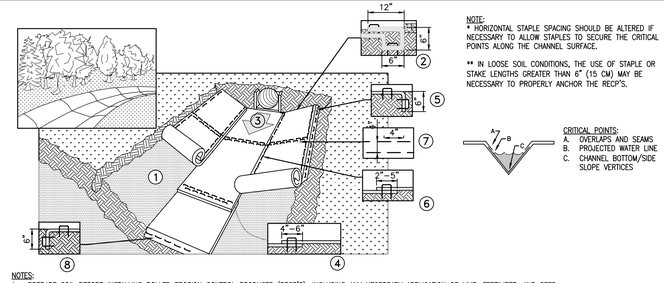
5 SILT FENCE
NOT TO SCALE



PRACTICE 3.01 – TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

MAINTENANCE REQUIREMENTS:
1. INSPECT ENTRANCE PAD WEEKLY, AFTER STORM EVENTS, AND AFTER HEAVY USE. RESHAPE PAD AS NEEDED TO MAINTAIN DRAINAGE AND RUNOFF CONTROL.
2. TOP DRESS WITH STONE TO MAINTAIN 8" CLEAN DEPTH THROUGHOUT ENTRANCE.
3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD. CLEAN BY SCRAPING OR SWEEPING ONLY. DO NOT FLUSH WITH WATER UNLESS SEDIMENT TRAP IS INSTALLED IN ROADWAY DRAINAGE IMPROVEMENTS.

6 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE



NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.

CRITICAL POINTS:
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

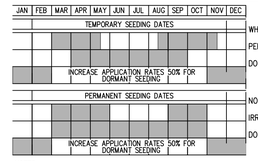
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP x 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP'S.
3. ROLL CENTER REP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM – 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP'S.
5. FULL LENGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.

7 EROSION CONTROL BLANKET CHANNEL INSTALLATION
NOT TO SCALE

STORMWATER POLLUTION PREVENTION PLAN INDEX

SEEDING SCHEDULE



NOTES:
1. PERMANENT SEEDING INFORMATION SHOWN ON THIS PLAN IS FOR EROSION CONTROL PURPOSES ONLY. IF THE LANDSCAPING PLANS AND SPECIFICATIONS CONTAIN INFORMATION CONCERNING PERMANENT LAWN SEEDING AND/OR SODDING, THEN THAT INFORMATION SHALL SUPERSEDE SIMILAR INFORMATION INDICATED ON THIS SHEET.
2. AREAS TO BE SEEDED SHALL BE SMOOTH AND UNIFORM AND SHALL BE IN ACCORDANCE WITH THE FINISHED GRADE AND CROSS SECTION SHOWN ON THE PLANS.
3. AREAS TO BE SEEDED SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 6 INCHES. LIGHTLY COMPACT PLACED TOPSOIL BY ROLLING OR TAMPING.
4. PRIOR TO REPLACING TOPSOIL, LOOSEN SUBSOIL TO ENSURE GOOD BOND WITH TOPSOIL.
5. APPLY SEEDING WITH 800 LB/ACRE OF 12–12–12 FERTILIZER AND MULCH WITH A CONTINUOUS BLANKET OF STRAW AT A RATE OF 2 TONS/ACRE, OR USE HYDROSEEDING TECHNIQUES WITH EQUIVALENT APPLICATION RATES.
6. APPLY TEMPORARY SEEDING WITH 200 LB/ACRE OF 12–12–12 FERTILIZER AND MULCH WITH A CONTINUOUS BLANKET OF STRAW AT A RATE OF 2 TONS/ACRE, OR USE HYDROSEEDING TECHNIQUES WITH EQUIVALENT APPLICATION RATES.
7. ON SLOPES GRADED AT 3:1 OR STEEPER, STRAW MULCH SHALL BE HELD IN PLACE WITH POLYMERIC PLASTIC NET TACKED WITH WIRE STAPLES, OR EQUIVALENT METHOD.
8. SEED MIXTURES AND APPLICATION RATES:
   GRASS MIX APPLIED AT 170 LB/ACRE (4 LB/1000 SQ.FT.) COMPRISED OF THE FOLLOWING:
   KENTUCKY 31 FESCUE – 95 LB/ACRE
   PERENNIAL RYEGRASS – 65 LB/ACRE
   JASPER RED FESCUE – 10 LB/ACRE

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
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www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
STORMWATER POLLUTION PREVENTION NOTES AND DETAILS

TRAVIS P. GAITHER REGISTERED No. 10809039 STATE OF INDIANA PROFESSIONAL ENGINEER

Travis P Gaither

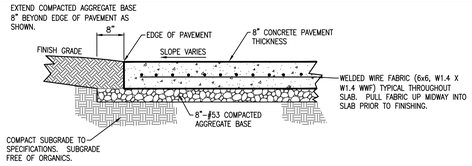
DRAWN BY	
TD	
CHECKED BY	JOB NUMBER 2015-186
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	

SHEET

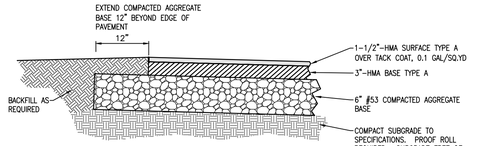
C8.0

STORMWATER POLLUTION PREVENTION NOTES AND DETAILS

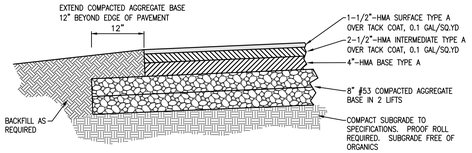
Plot Date: Jun 07, 2016 Plot Time: 10:20am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Info\Design\CAD\15186.Details.dwg, Layout: C8.0 By: tdavis



1 HEAVY DUTY CONCRETE PAVEMENT SECTION
NOT TO SCALE



2 REGULAR DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE



3 HEAVY DUTY ASPHALT PAVEMENT SECTION
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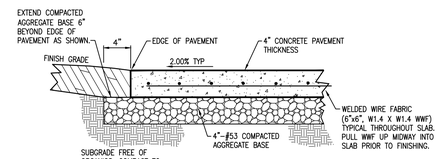
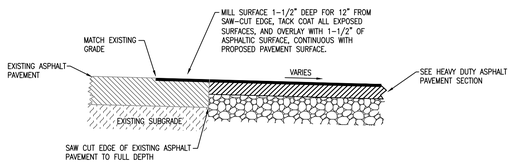
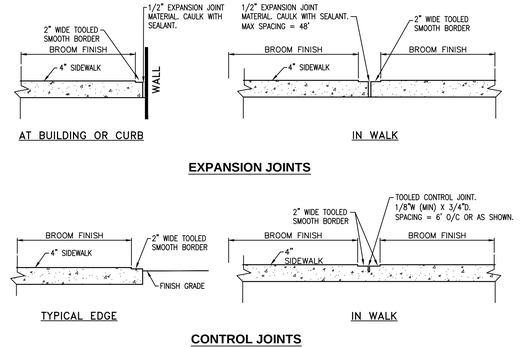


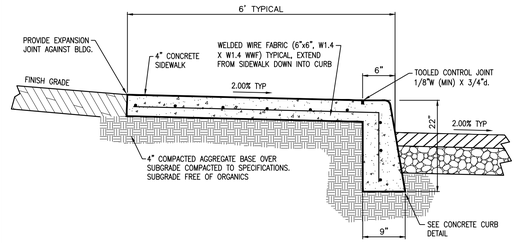
4 CONCRETE SIDEWALK
NOT TO SCALE



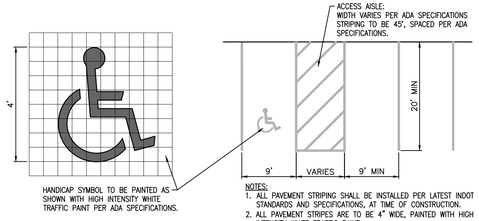
5 ASPHALT PAVEMENT LAP JOINT DETAIL
NOT TO SCALE



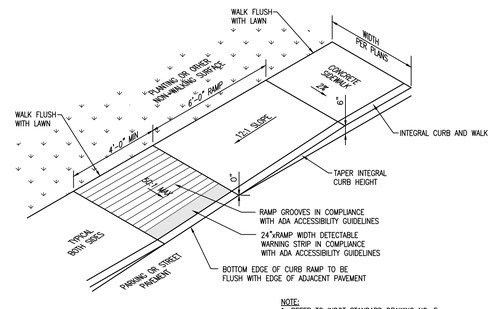
6 CONCRETE SIDEWALK JOINT & FINISHING DETAILS
NOT TO SCALE



7 INTEGRAL CONCRETE CURB & SIDEWALK
NOT TO SCALE



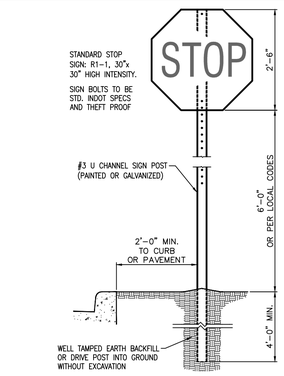
8 PAVEMENT MARKING DETAILS
NOT TO SCALE



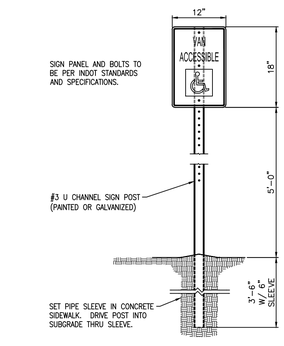
NOTE:
1. REFER TO INDOT STANDARD DRAWING NO. E 604-SWCR-02 FOR ADDITIONAL INFORMATION.
2. LENGTH OF RAMP SHALL BE INCREASED DUE TO PARTICULAR SITE GRADING CONDITIONS SUCH THAT THE SLOPE OF THE RAMP DOES NOT EXCEED 1:12.

9 SIDEWALK CURB RAMP, INDOT TYPE K
NOT TO SCALE

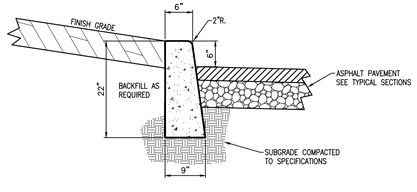
10 PIPE BOLLARD DETAIL
NOT TO SCALE



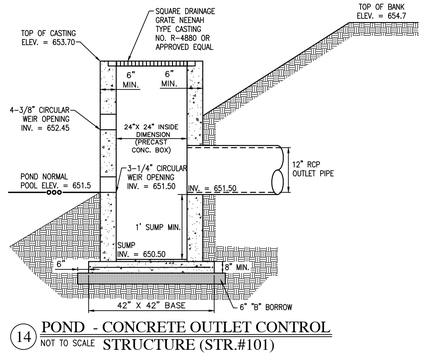
11 TRAFFIC CONTROL SIGNS
NOT TO SCALE



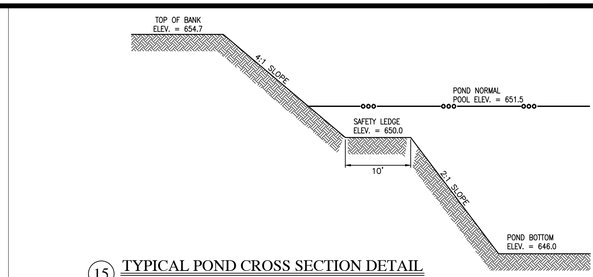
12 HANDICAP PARKING SIGN
NOT TO SCALE



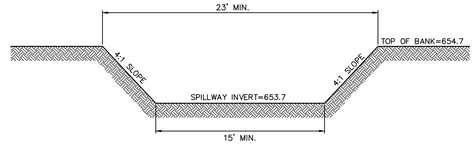
13 CONCRETE BARRIER CURB
NOT TO SCALE



14 POND - CONCRETE OUTLET CONTROL STRUCTURE (STR.#101)
NOT TO SCALE

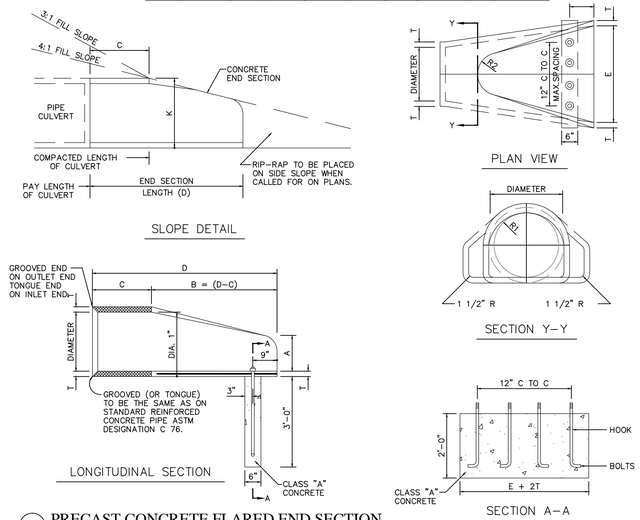


15 TYPICAL POND CROSS SECTION DETAIL
NOT TO SCALE

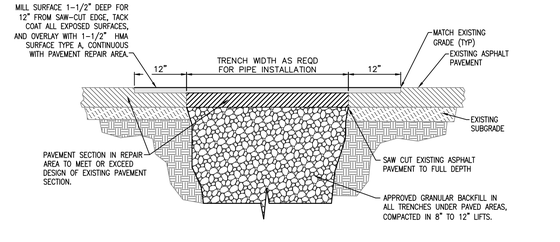


16 POND EMERGENCY OVERFLOW WEIR DETAIL
NOT TO SCALE

DIA.	T (MIN.)	A x	C x	D x	E x	K	R1	R2	APPROX. WEIGHT
12"	2"	5"	4'-3"	6'-2"	2'-0"	1.3	10 1/8"	9"	800
18"	2 1/2"	9"	13"	3'-4"	3'-0"	1.8	14 7/8"	13"	900



17 PRECAST CONCRETE FLARED END SECTION
NOT TO SCALE



18 ASPHALT PAVEMENT REPAIR
NOT TO SCALE

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
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VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA
CONSTRUCTION DETAILS

TRAVIS P. GALTNER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

DRAWN BY	JOB NUMBER 2015-186
TD	
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	
SHEET	
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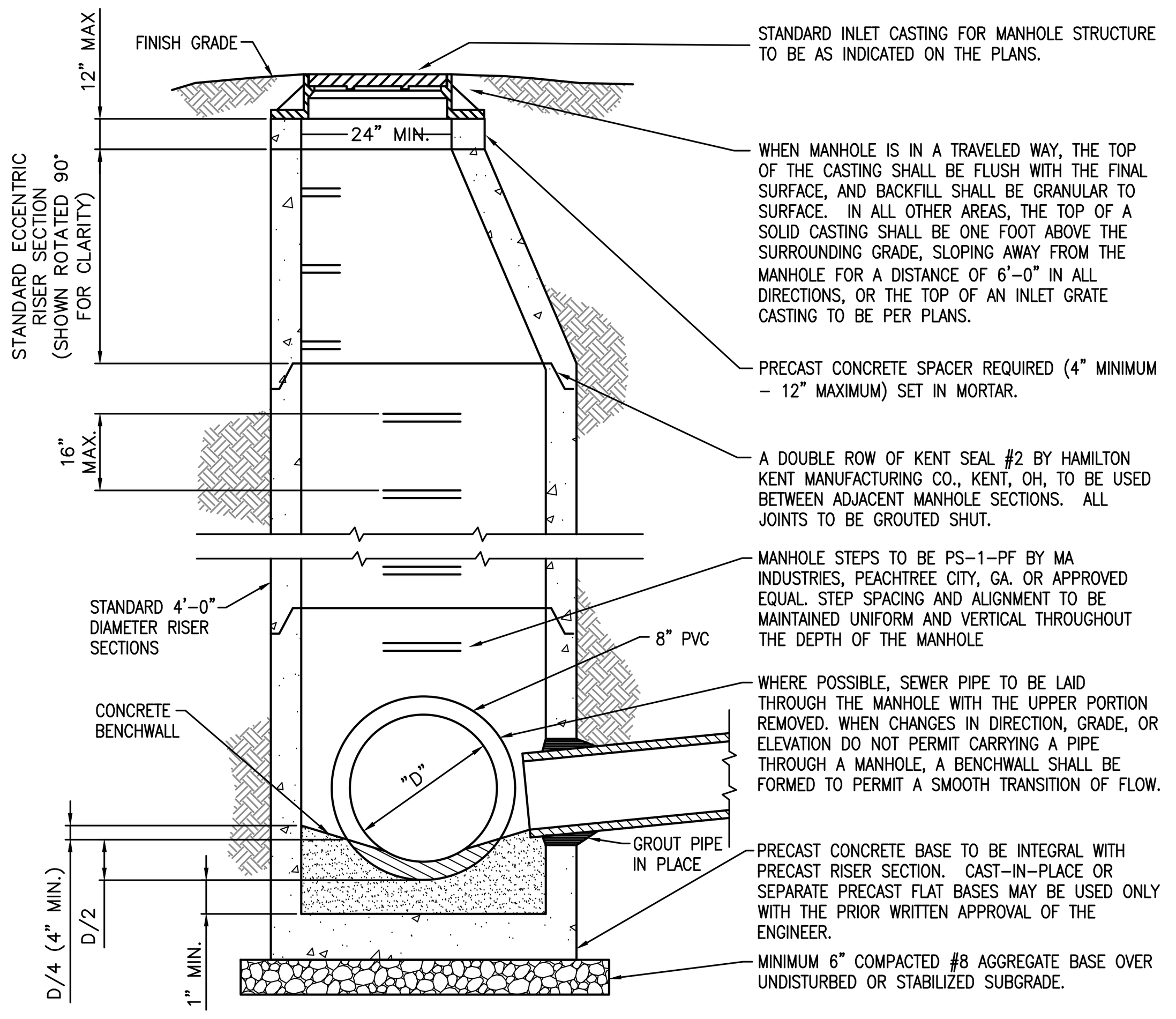
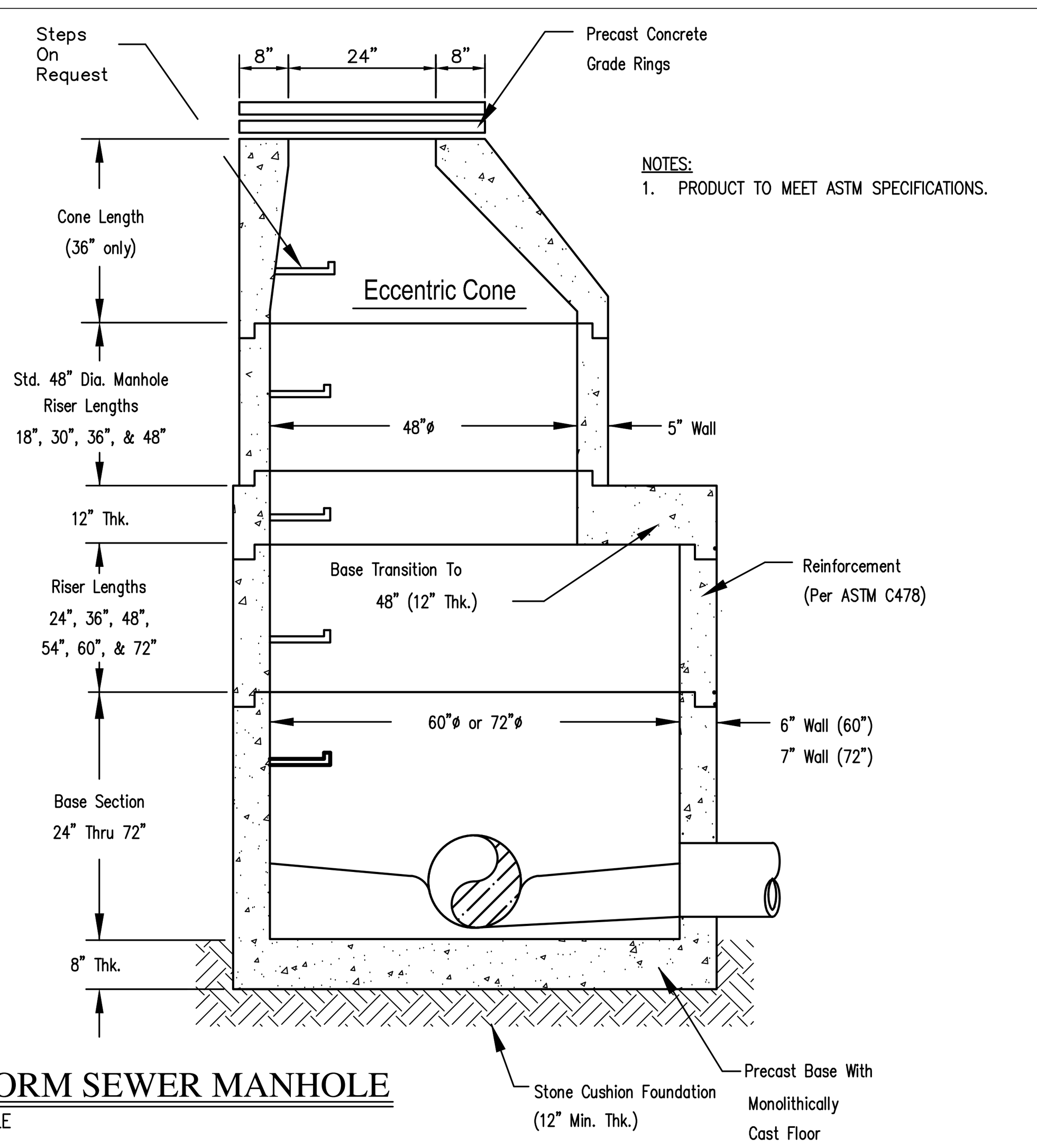
CONSTRUCTION DETAILS	

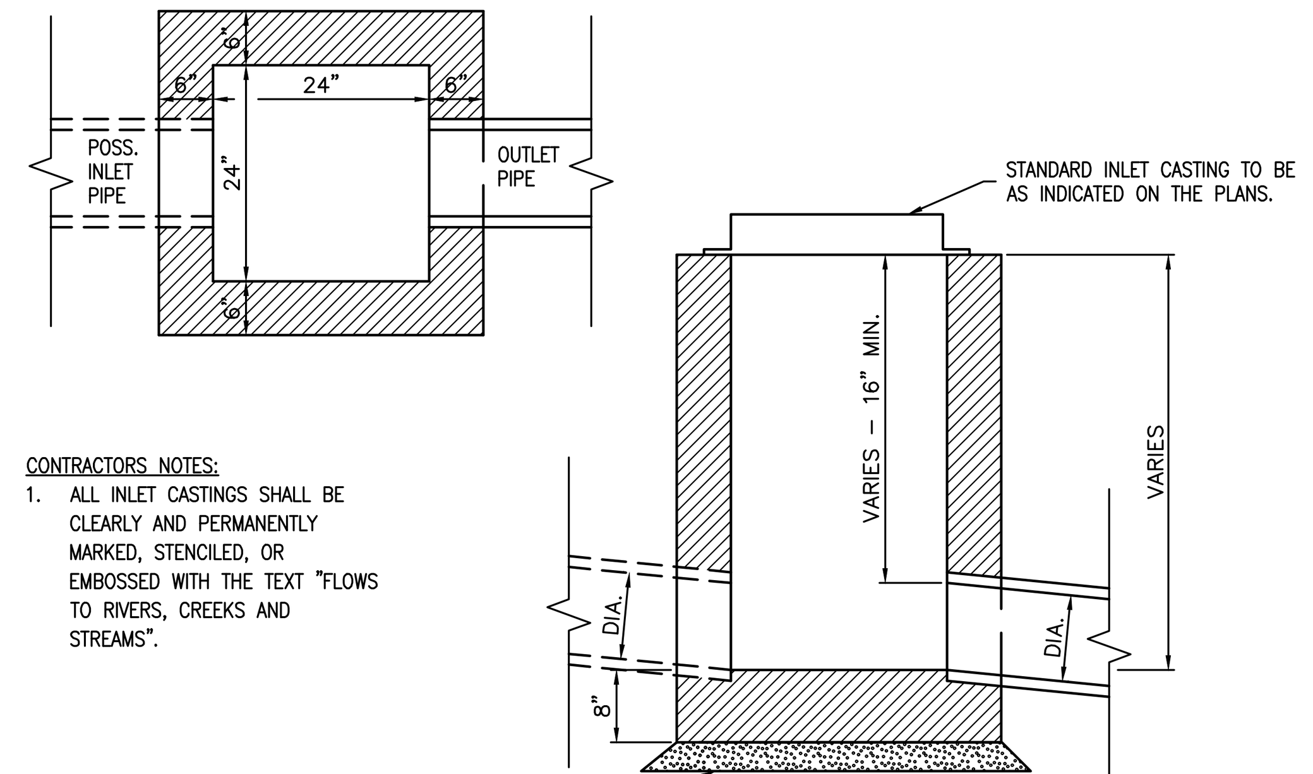
Plot Date: Jun 07, 2016 Plot Time: 10:20am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Infra\Design\CAD\15186.Details.dwg, Layout: C8.1 By: tdavis



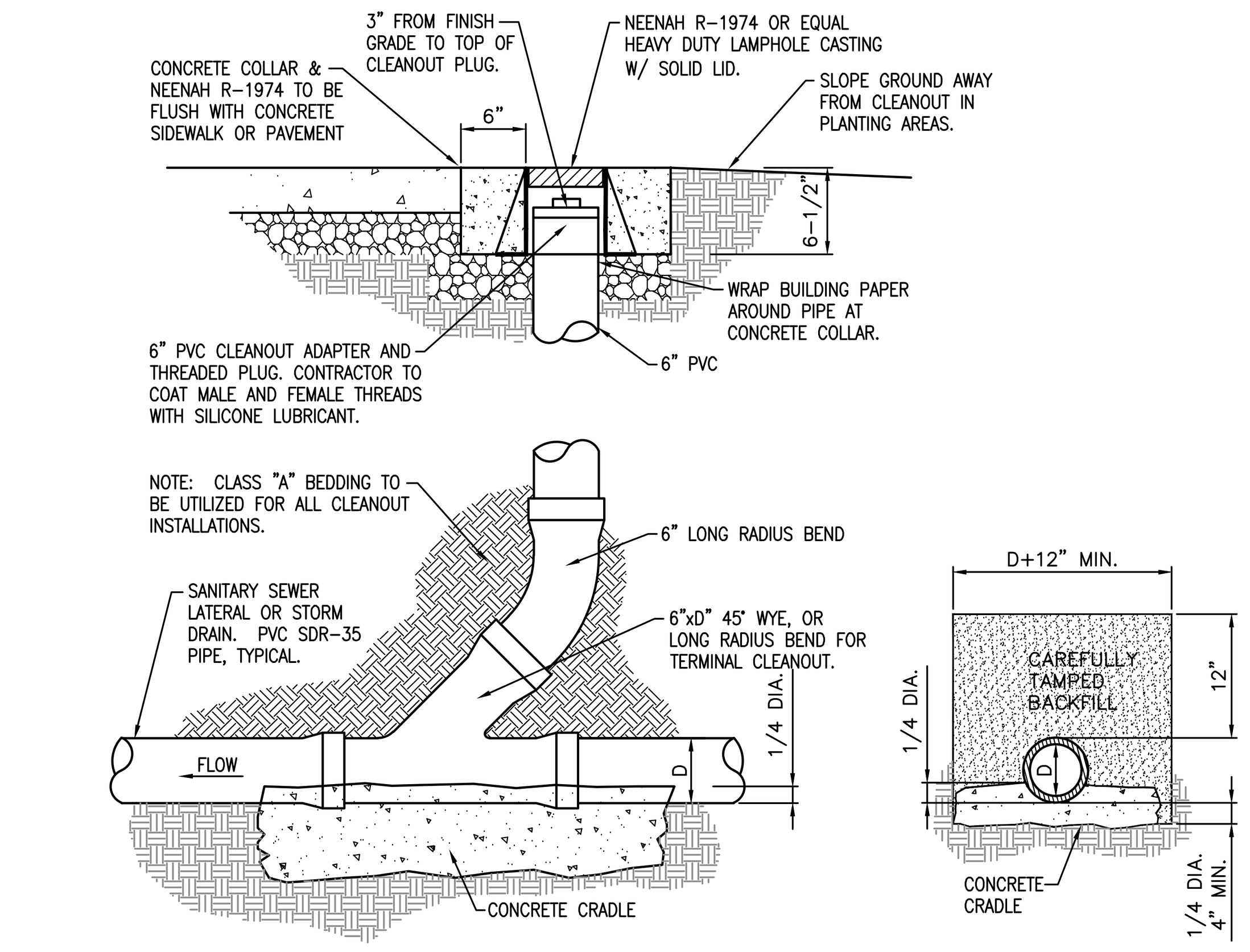
1 DOGHOUSE MANHOLE
NOT TO SCALE



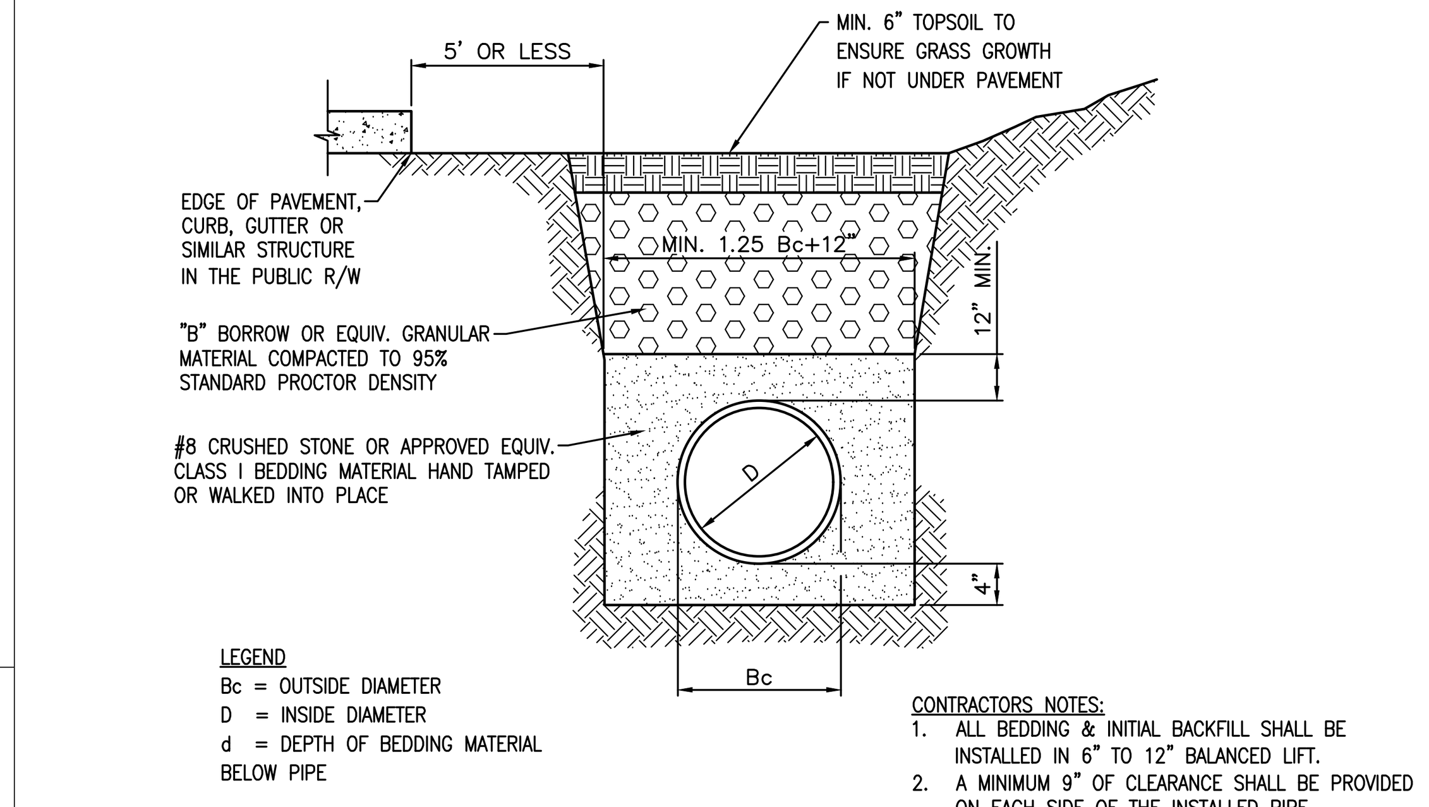
2 60" STORM SEWER MANHOLE
NOT TO SCALE



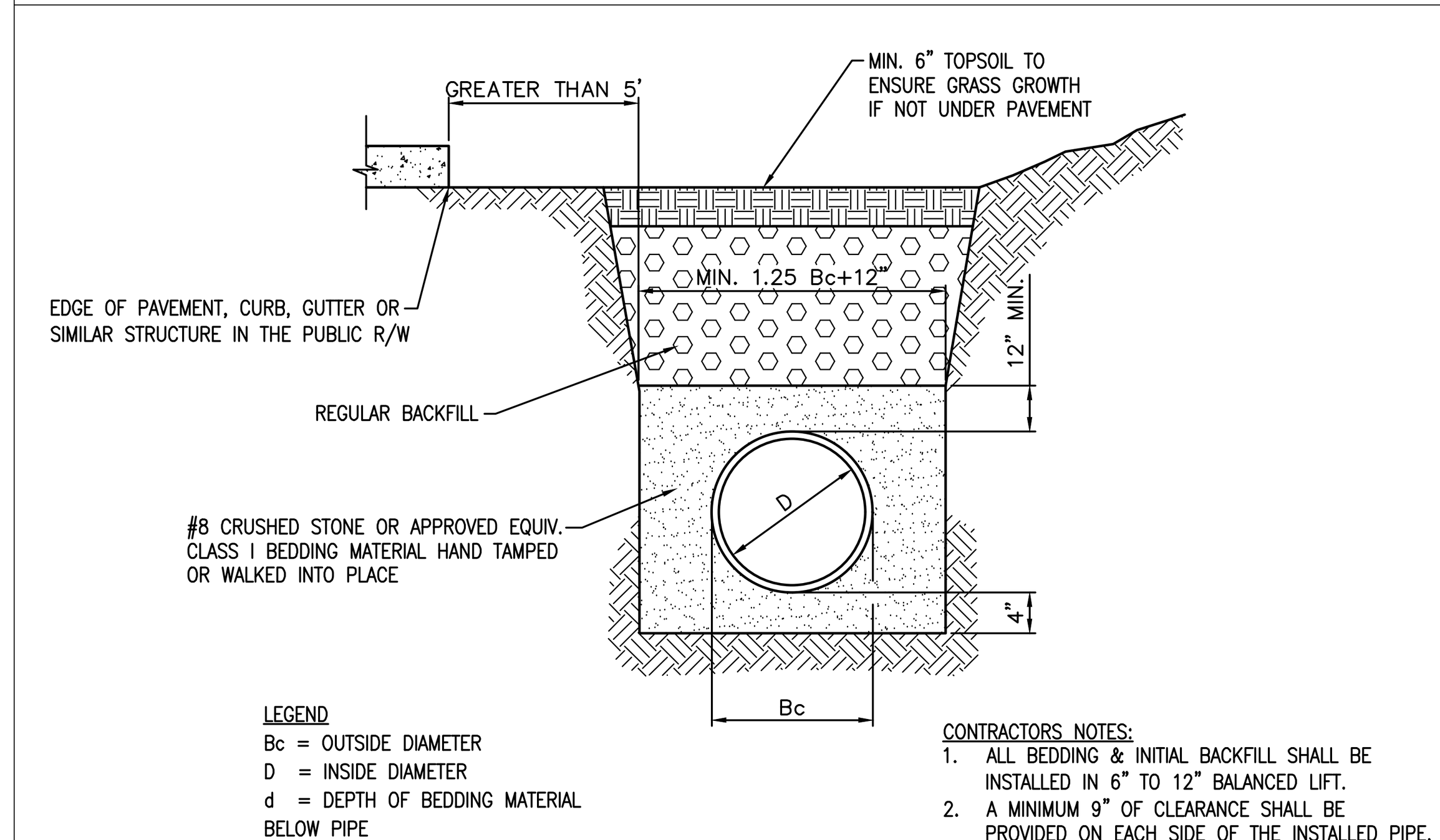
3 2X2 BOX INLET
NOT TO SCALE



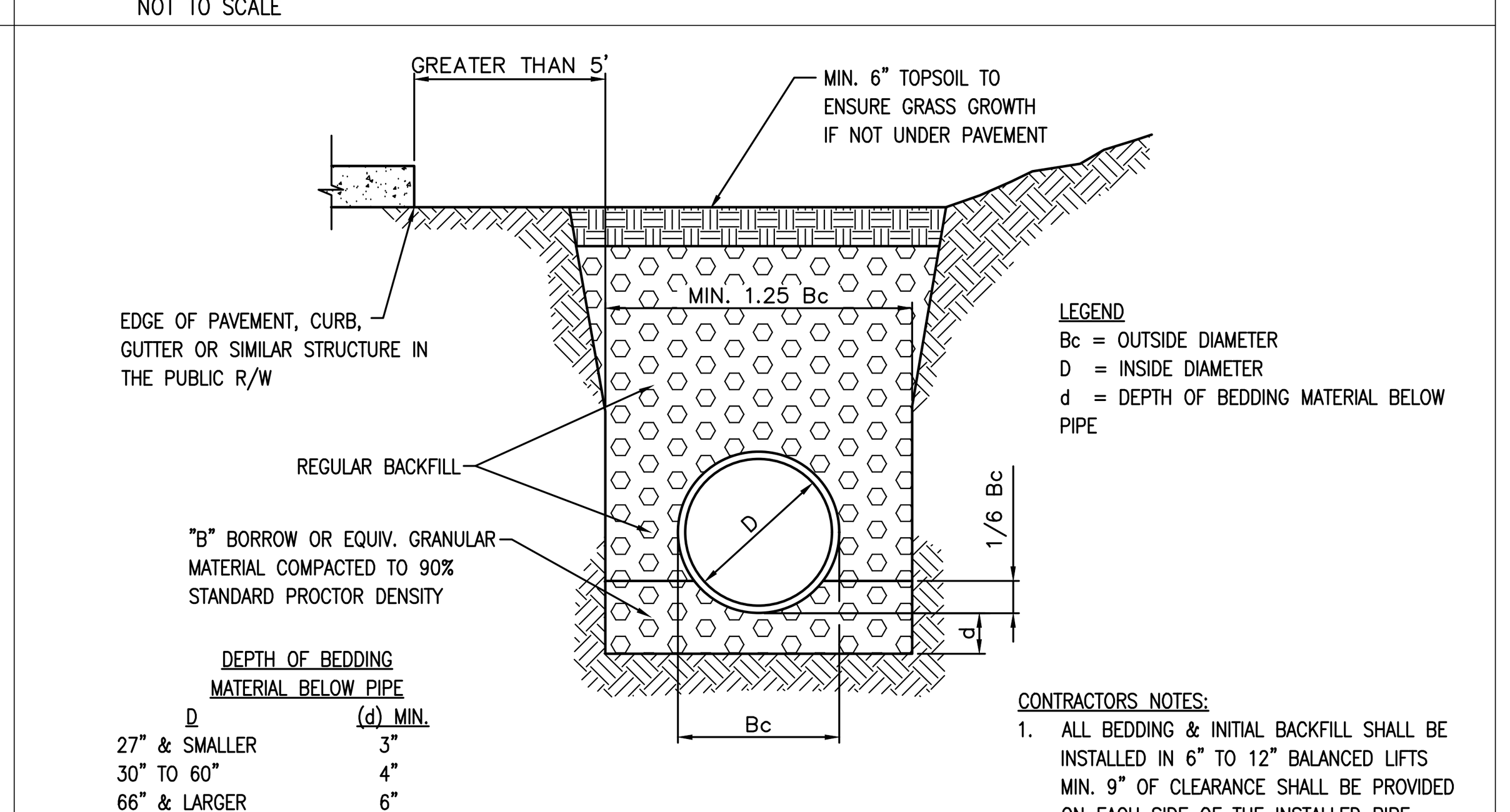
4 CLEAN-OUT DETAIL FOR PAVEMENT & PLANTING AREAS
NOT TO SCALE



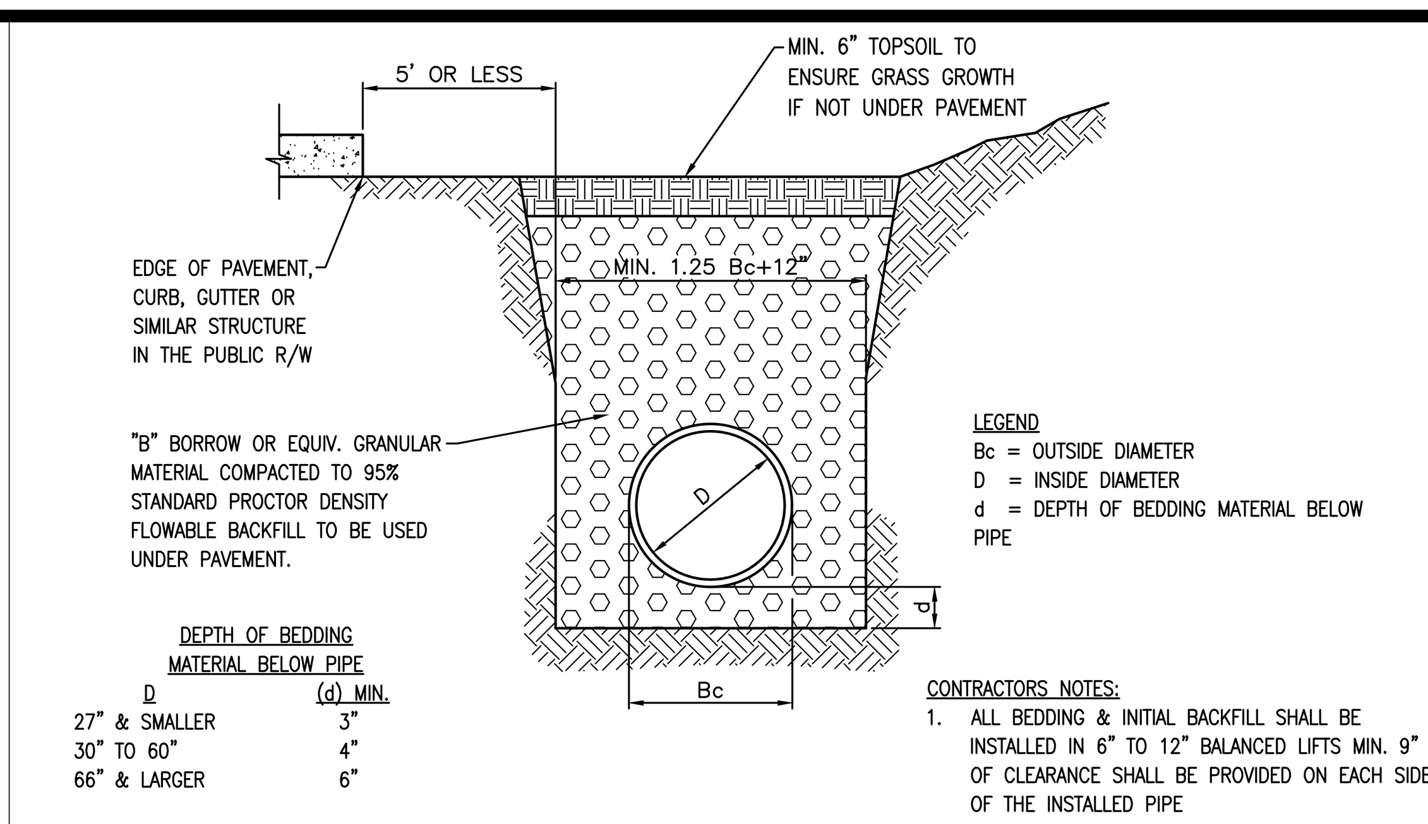
5 PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL
WITHIN 5' FROM EDGE OF PAVEMENT
NOT TO SCALE



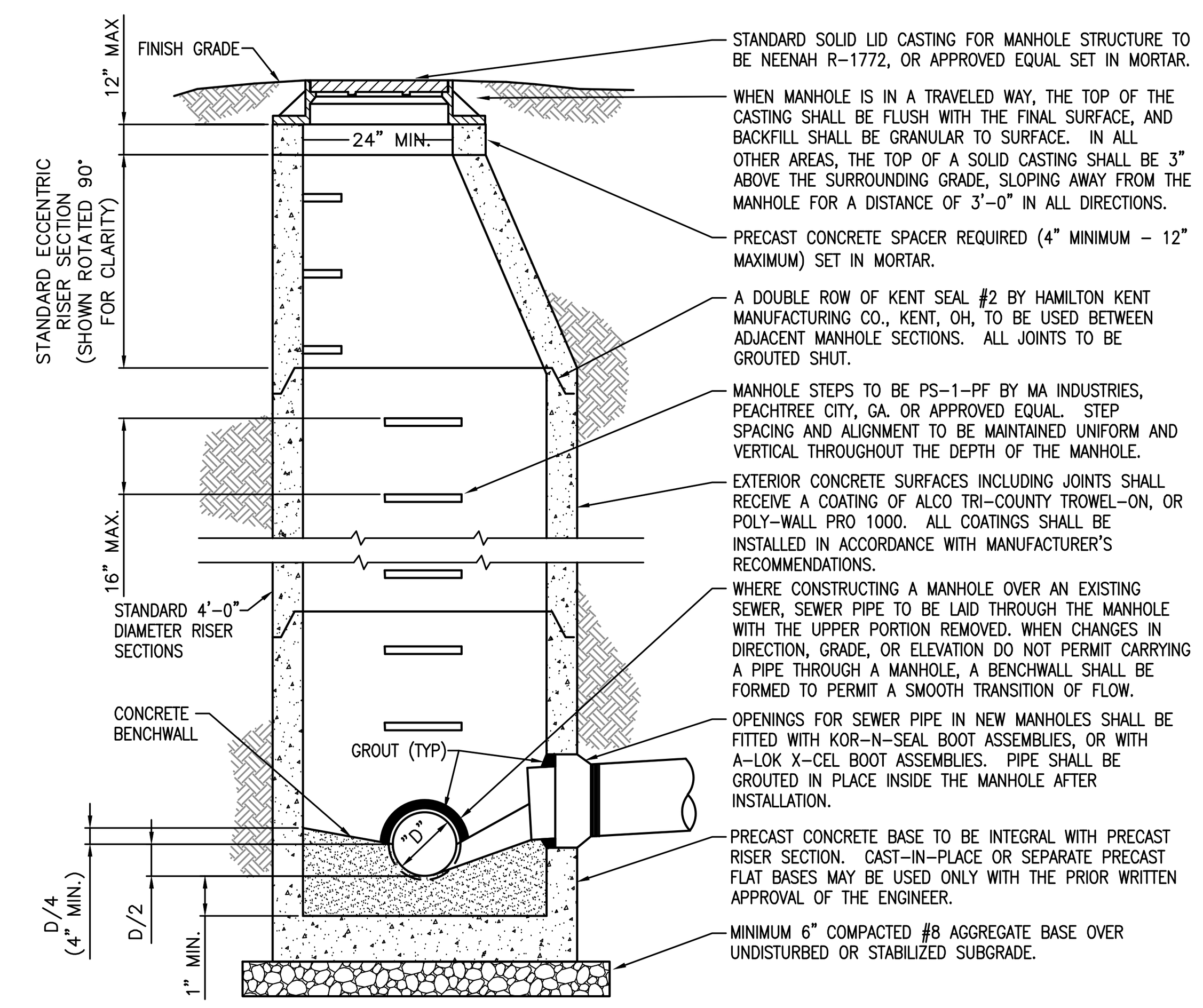
6 PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL
GREATER 5' FROM EDGE OF PAVEMENT
NOT TO SCALE



7 REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL
GREATER 5' FROM EDGE OF PAVEMENT
NOT TO SCALE

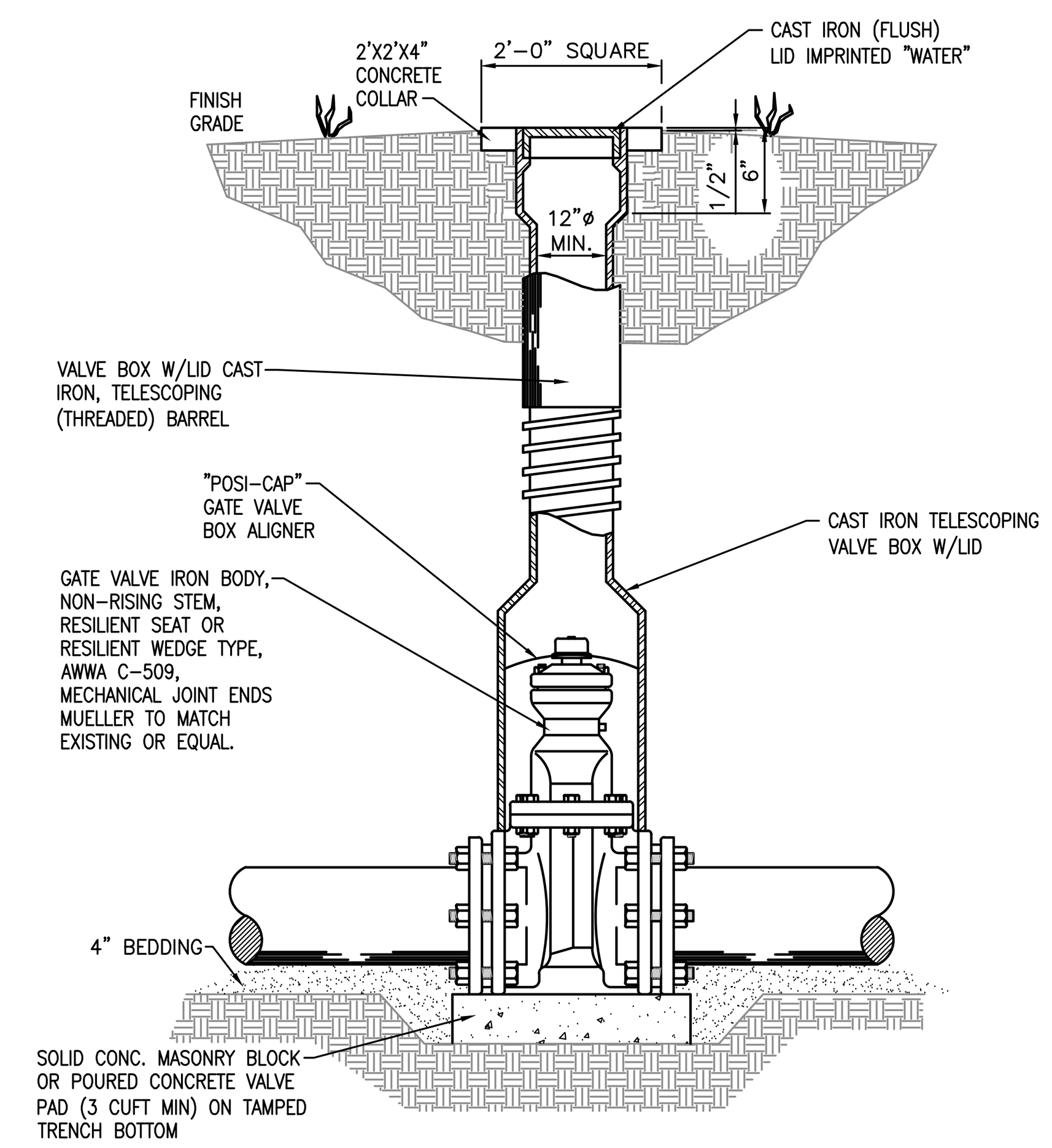


8 REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL
WITHIN 5' FROM EDGE OF PAVEMENT
NOT TO SCALE



9 SANITARY SEWER MANHOLE
NOT TO SCALE

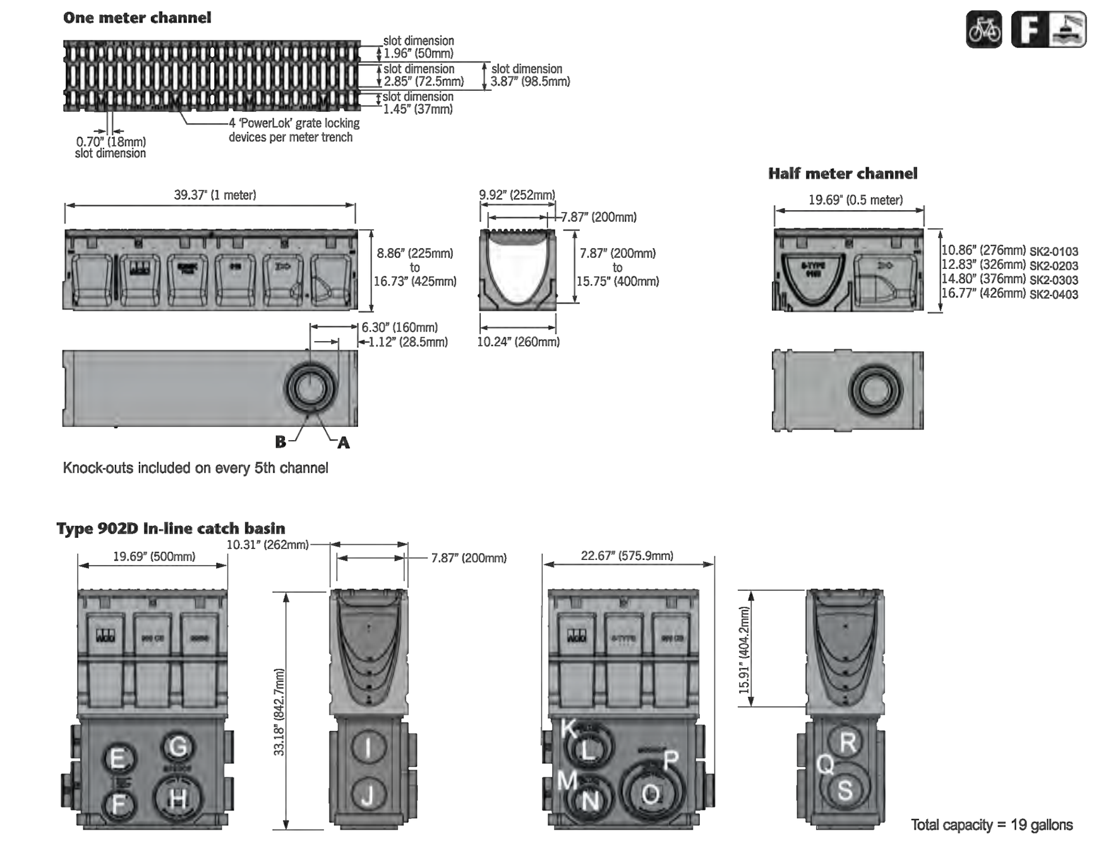
10



11 GATE VALVE WITH BOX DETAIL
NOT TO SCALE

ACO DRAIN

PowerDrain - S200K iron edged channel system with slotted grate

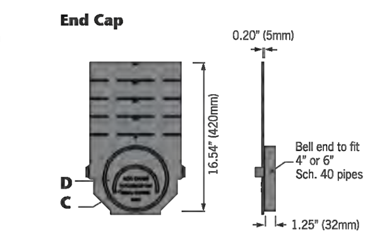


Outlet flow rates

Outlet	Product	Outlet size (Sch. 40)	Invert Depth	GPM	CFS
A	Bottom outlet - SK2-00	4" round	7.87"	153	0.34
A	Bottom outlet - SK2-040	4" round	15.75"	216	0.48
B	Bottom outlet -SK2-00	6" round	7.87"	344	0.77
B	Bottom outlet - SK2-040	6" round	15.75"	486	1.08
C	End outlet - SK2-00	4" round	7.87"	132	0.29
C	End outlet - SK2-40	4" round	15.75"	202	0.45
D	End outlet - SK2-10	6" round	9.84"	320	0.71
D	End outlet - SK2-40	6" round	15.75"	437	0.97
E	Type SK2-902D	4" round	25.33"	263	0.59
F	Type SK2-902D	4" round	31.83"	297	0.66
G	Type SK2-902D	4" round	23.76"	254	0.57
H	Type SK2-902D	6" round	31.83"	658	1.47
I	Type SK2-902D	4" round	23.91"	255	0.57
J	Type SK2-902D	4" round	30.40"	290	0.65
K	Type SK2-902D	6" round	24.68"	570	1.27
L	Type SK2-902D	4" round	24.13"	256	0.57
M	Type SK2-902D	6" round	31.82"	658	1.47
N	Type SK2-902D	4" round	31.26"	294	0.66
O	Type SK2-902D	6" round	31.26"	651	1.45
P	Type SK2-902D	8" round	31.82"	1149	2.56
Q	Type SK2-902D	6" round	30.32"	640	1.43
R	Type SK2-902D	4" round	23.19"	251	0.56
S	Type SK2-902D	4" round	29.90"	288	0.64

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

End Cap



ACO Specification Information

June 13/4 www.ACODrain.us

ACO DRAIN

PowerDrain - S200K iron edged channel system with slotted grate

Description	Part No.	Invert Inches[2]	Invert mm[2]	Weight lbs.
SK2-00 Neutral channel - 39.37" (1m)[1]	71041	7.87	200	141.2
SK2-1 Sloped channel - 39.37" (1m)	71001	8.07	205	141.2
SK2-2 Sloped channel - 39.37" (1m)	71002	8.26	210	142.3
SK2-3 Sloped channel - 39.37" (1m)	71003	8.46	215	143.4
SK2-4 Sloped channel - 39.37" (1m)	71004	8.66	220	144.5
SK2-5 Sloped channel - 39.37" (1m)[1]	71005	8.85	225	145.6
SK2-6 Sloped channel - 39.37" (1m)	71006	9.05	230	146.7
SK2-7 Sloped channel - 39.37" (1m)	71007	9.25	235	147.8
SK2-8 Sloped channel - 39.37" (1m)	71008	9.44	240	148.9
SK2-9 Sloped channel - 39.37" (1m)	71009	9.64	245	150.0
SK2-10 Sloped channel - 39.37" (1m)[1]	71010	9.84	250	151.1
SK2-010 Neutral channel - 39.37" (1m)[1]	71043	9.84	250	151.2
SK2-0103 Neutral channel - 19.69" (0.5m)[1]	71044	9.84	250	89.2
SK2-11 Sloped channel - 39.37" (1m)	71011	10.03	255	152.2
SK2-12 Sloped channel - 39.37" (1m)	71012	10.23	260	153.3
SK2-13 Sloped channel - 39.37" (1m)	71013	10.43	265	154.4
SK2-14 Sloped channel - 39.37" (1m)	71014	10.62	270	155.6
SK2-15 Sloped channel - 39.37" (1m)[1]	71015	10.82	275	156.7
SK2-16 Sloped channel - 39.37" (1m)	71016	11.02	280	157.8
SK2-17 Sloped channel - 39.37" (1m)	71017	11.22	285	158.9
SK2-18 Sloped channel - 39.37" (1m)	71018	11.41	290	160.0
SK2-19 Sloped channel - 39.37" (1m)	71019	11.61	295	161.1
SK2-20 Sloped channel - 39.37" (1m)[1]	71020	11.81	300	162.2
SK2-020 Neutral channel - 39.37" (1m)[1]	71045	11.81	300	162.2
SK2-0203 Neutral channel - 19.69" (0.5m)[1]	71046	11.81	300	96.8
SK2-21 Sloped channel - 39.37" (1m)	71021	12.00	305	163.3
SK2-22 Sloped channel - 39.37" (1m)	71022	12.20	310	164.4
SK2-23 Sloped channel - 39.37" (1m)	71023	12.40	315	165.5
SK2-24 Sloped channel - 39.37" (1m)	71024	12.59	320	166.6
SK2-25 Sloped channel - 39.37" (1m)[1]	71025	12.79	325	167.7
SK2-26 Sloped channel - 39.37" (1m)	71026	12.99	330	168.8
SK2-27 Sloped channel - 39.37" (1m)	71027	13.18	335	169.9

Description	Part No.	Invert Inches[2]	Invert mm[2]	Weight lbs.
SK2-28 Sloped channel - 39.37" (1m)	71028	13.38	340	171.0
SK2-29 Sloped channel - 39.37" (1m)	71029	13.58	345	172.1
SK2-30 Sloped channel - 39.37" (1m)[1]	71030	13.77	350	173.2
SK2-030 Neutral channel - 39.37" (1m)[1]	71047	13.77	350	173.2
SK2-0303 Neutral channel - 19.69" (0.5m)[1]	71048	13.77	350	101.3
SK2-31 Sloped channel - 39.37" (1m)	71031	13.97	355	174.4
SK2-32 Sloped channel - 39.37" (1m)	71032	14.17	360	175.5
SK2-33 Sloped channel - 39.37" (1m)	71033	14.37	365	176.6
SK2-34 Sloped channel - 39.37" (1m)	71034	14.56	370	177.7
SK2-35 Sloped channel - 39.37" (1m)[1]	71035	14.76	375	178.8
SK2-36 Sloped channel - 39.37" (1m)	71036	14.96	380	179.9
SK2-37 Sloped channel - 39.37" (1m)	71037	15.15	385	181.0
SK2-38 Sloped channel - 39.37" (1m)	71038	15.35	390	182.1
SK2-39 Sloped channel - 39.37" (1m)	71039	15.55	395	183.2
SK2-40 Sloped channel - 39.37" (1m)[1]	71040	15.74	400	184.3
SK2-040 Neutral channel - 39.37" (1m)[1]	71049	15.74	400	184.3
SK2-0403 Neutral channel - 19.69" (0.5m)[1]	71050	15.74	400	110.1
SK2-903D In-line catch basin - 19.69" (0.5m)[3]	94619	37.36	949	109.8
SK2-904D In-line catch basin - 19.69" (0.5m)[1]	94575	49.41	1255	144.0
SK2-631D catch basin - 19.69" (0.5m)[4]	94579	49.41	1255	154.0
Series 600 Optional plastic riser	99902	-	-	10.0
Foul air trap - fits both 910 & 610 basins	90854	-	-	1.2
8" channel Universal end cap	96823	19.69	500	1.4
Debris strainer for 4" bottom knockout	93488	-	-	0.2
8" channel Installation device	97478	-	-	4.0
Grate removal tool	01318	-	-	0.3

Notes:
1. This channel offers bottom knockout feature: 6" & 8" round.
2. Inverts shown are male end; for female invert depth subtract 5mm (≈0.2") from male invert (except neutral channels where it will be same as male invert). To calculate overall channel depth, add 25.4mm (1.0") to invert depth.
3. Catch basin assembly includes polymer concrete top, PowerLok grate, trash bucket and plastic base.
4. Catch basin assembly includes polymer concrete top, PowerLok grate, deep trash bucket, plastic riser and plastic base.
5. Water intake per meter channel is 140.2 in^2 (904.51 cm^2)

Specifications

General
The surface drainage system shall be ACO Drain PowerDrain S200K complete with slotted gratings secured with 'PowerLok' locking as manufactured by ACO Polymer Products, Inc. or equal approved.

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

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

The nominal clear opening shall be 8" (200mm) with overall width of 10.24" (260mm). Pre-cast units shall be manufactured with either an invert slope of 0.5% or with neutral invert and have a wall thickness of at least 0.67" (16mm). Each unit will feature a partial radius in the trench bottom and a male to female interconnecting end profile. Units shall have horizontal cast in anchoring keys on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface. The ductile iron edge rail will be integrally cast in by the manufacturer to ensure maximum homogeneity between polymer concrete body and edge rail. Each edge rail shall be at least 1/4" (6mm) thick.

Grates
Grates come in longitudinal ductile iron. Ductile iron to ASTM 536-84 - Grade 65-45-12. After removal of grates there shall be uninterrupted access to the trench to aid maintenance.

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

ACO Specification Information

ACO Polymer Products, Inc.

Northeast Sales Office
P.O. Box 245
Chardon, OH 44024
Tel: (440) 285-7000
Toll free: (800) 543-4764
Fax: (440) 285-7005

West Sales Office
P.O. Box 12067
Casa Grande, AZ 85130
Tel: (520) 421-9988
Toll Free: (888) 490-9552
Fax: (520) 421-9899

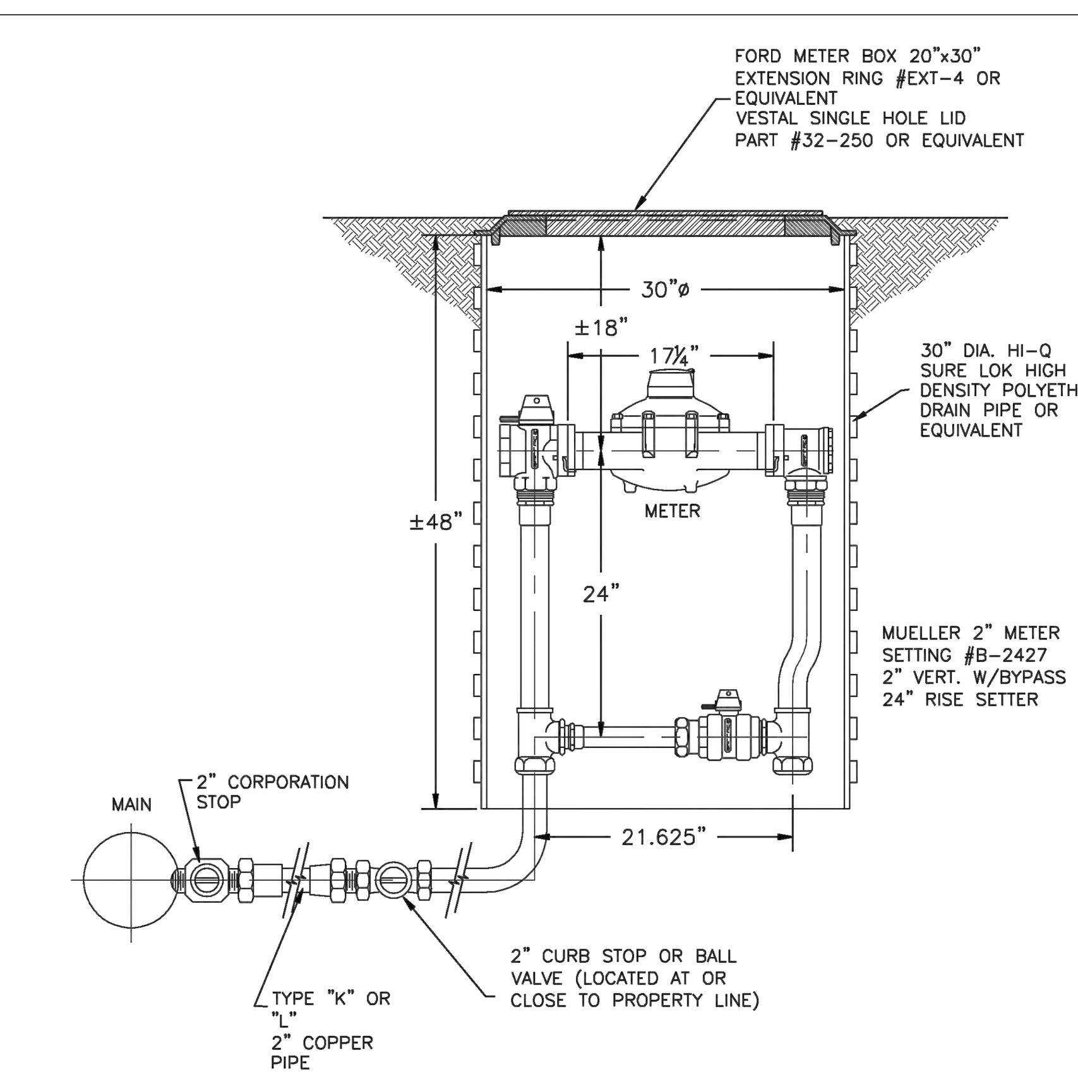
Southeast Sales Office
4211 Pleasant Road
Fort Mill, SC 29708
Toll free: (800) 543-4764
Fax: (803) 802-1063

Follow us on

Electronic Contact:
info@ACODrain.us
www.ACODrain.us

SPEC INFO

12 TRENCH DRAIN
NOT TO SCALE



13 TYPICAL 2" METER PIT DETAIL
NOT TO SCALE

REVISIONS

DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING NEWPORT, INDIANA

CONSTRUCTION DETAILS

TRAVIS P. GAITHER
REGISTERED No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

DRAWN BY	TD
CHECKED BY	TG
DATE	APRIL 22, 2016
SCALE	AS SHOWN
JOB NUMBER	2015-186
SHEET	C8.2

CONSTRUCTION DETAILS

Plot Date: Jun 07, 2016 Plot Time: 10:21am File Name: W:\Vermillion Co RA\2015-186 Vermillion Co RA- Newport Spec Support Info\Design\CAD\15186.Details.dwg, Layout: C8.2 By: tdavis

SANITARY SEWER SPECIFICATIONS

1. Standard specifications 327 IAC 3 shall apply for all work and materials. Inspection service shall be provided by Newport Chemical Depot Reuse Authority and Professional Services Industries. The following specifications and construction plan details denote requirements for materials and installation methods per 327 IAC 3. Newport Chemical Depot Reuse Authority must be notified 48 hours in advance of any testing. Newport Chemical Depot Reuse Authority representative must be present for lateral installation.

2. Sanitary sewer pipe shall be PVC in accordance with ASTM D-3034 (S.D.R. 35) and ASTM 2321. PVC pipe shall have a grooved bell and gasket. The pipe shall be made of PVC plastic having a cell classification of 12454B.

3. PVC sewer fittings shall conform to the requirements of ASTM D-3034-89 specification. Fittings in sizes through 8" shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Fittings 10" and larger shall be molded or fabricated in accordance with section 7.11 with manufacturers standard pipe bells and gaskets. Wall thickness of fittings shall be SDR 26 as defined in section 7.4.1 of specifications. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification.

4. All sanitary manholes shall be "precast concrete" manholes in accordance with ASTM C-478 and Section 720. O-rings shall conform to C-443. Kent Seal or equivalent shall also be applied to all joints and between riser rings and castings. Manhole step spacing shall be no more than 16-inches. Manholes shall be air tested for leakage in accordance with ASTM C1244-93, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test. A Newport Chemical Depot Reuse Authority representative must be present for all negative air pressure (vacuum) tests.

A. Installation and operation of vacuum equipment and indicating devices must be in accordance with manufacturer's recommendations and performance specifications which have been provided by the manufacturer and accepted by the Engineer. The vacuum equipment must be capable of testing the entire manhole, including the casting and riser rings.

B. With the vacuum tester set in place:

1. Connect the vacuum pump to the outlet port with the valve open.
2. Draw a vacuum of ten (10) inches of Hg. and close the valve.

C. Accepted standards for leakage will be established from the elapsed time for a negative pressure change from ten (10) inches to nine (9) inches of mercury. The maximum allowable leakage rate for a four (4) foot diameter manhole must be in accordance with the following:

Manhole Depth	Minimum Elapsed Time for a Pressure Change of 1 Inch Hg
10 feet or less	60 seconds
>10 feet but <15 feet	75 seconds
>15 feet but <25 feet	90 seconds

For manholes five (5) feet in diameter, add an additional fifteen (15) seconds and for manholes six (6) feet in diameter, add an additional thirty (30) seconds to the time requirements for four (4) foot diameter manholes. For all manholes deeper than twenty-five (25) feet. Engineer will determine the applicable minimum elapsed time.

D. If the manhole fails the test, necessary repairs must be made and the vacuum test and repairs must be repeated until the manhole passes the test.

E. If manhole joint sealants are pulled out during the vacuum test, the manhole must be disassembled and the joint sealants replaced.

F. Manholes will be subject to visual inspection with all visual leaks being repaired.

5. Butyl rubber coating shall be applied around each manhole joint from 6-inches above to 6-inches below each joint. The appropriate primer shall be applied prior to applying the rubber coating. Inside joints to be filled with precast plug material.

6. The manhole chimney's including all riser rings shall be sealed using Infi-Shield "Uniband" or approved equal. Prior to placement, the top 4-inches of the manhole cone and casting frame shall be cleaned and primed. The Uniband shall extend from 3-inches below the top of the cone section to 2-inches over the flange of the manhole casting frame.

7. The casting elevations are set by plan. However, the castings are to be adjusted in the field by the Engineer's representative, should a discrepancy occur between plan grade and existing grade. New manhole ring and cover shall be installed to establish grade. Maximum height of adjusting rings shall be 12-inches.

8. Backfill around all structures and all cuts under paved areas with granular material. Trenches opening within 5-feet of paved roadways shall be backfilled with granular material in accordance with Section 211. Backfill under sidewalks shall be granular, unless the walks are constructed a minimum of 6 months after backfill has been in place.

9. The Contractor shall be responsible for verifying that all state highways, city, and county permits have been obtained by the developer prior to start of construction.

10. The Contractor shall be required to furnish the developer's Engineer with a set of prints, marked in red pencil, showing actual sewer location and invert, to include lateral location, depth and length. Such "as built" prints must be received by the Engineer before the final contract payment can be authorized. The sanitary sewer laterals and stubs termination shall be indicated on the surface with a metal fence post set immediately above the said termination point.

11. All sanitary sewer lines upon completion will be required to pass a low pressure air test. Said test shall be conducted according to ASTM 1417-92, and shall be witnessed by an Engineer and a representative of the District. The testing shall be in accordance with Table 1. Add 0.5 psig for each foot of water above the sewer line being tested.

12. Deflection tests shall be performed on all flexible* pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5% deflection test results. (*The following are considered non-flexible pipes: concrete pipe, ductile iron pipe, and cast iron pipe). The deflection test shall be performed with a nine-point mandrel. Proving rings shall be available. Deflection test shall also be performed using a mandrel that is 95% of the diameter of the inside of the pipe, and that the mandrel be pulled by hand. Mandrel Test shall be done a minimum of 30 days after sewer installation.

13. All mandrel testing shall be observed by a professional engineer representative for certification and a representative of the District. Mandrel Test shall be done a minimum o 30 days after sewer installation.

14. The ends of laterals are to be plugged tight with a braced plastic disc or cap capable of withstanding a low pressure air test without leakage. End of lateral to be marked by 2x4 stake or PVC riser.

15. Bedding for flexible pipe shall be No. 8 crushed stone from 6-inches below the pipe to 12-inches above the pipe. Bedding for rigid pipe shall be No. 8 crushed stone from 6-inches below the pipe to the spring line of the pipe and from this point to 12-inches above shall be fill sand or equivalent. Manholes shall be placed on no less than 6-inches of No. 8 crushed stone bedding.

16. Water and sewer line crossings and separations shall be in accordance with 327IAC 3-6-9.

Sec. 9. (a) Sanitary sewers shall not be located within ten (10) feet of any existing or proposed water mains, when measured horizontally from the outside edge of the sanitary sewer to the outside edge of any existing and proposed water mains, unless the sanitary sewers and water main comply with the following:

(1) The sanitary sewer and water main must cross with the sanitary sewer and water main separated by a minimum of eighteen (18) inches measured vertically from the outside edge of the sanitary sewer to the outside edge of the water main.
(2) The crossing specified in subdivision (1) must be at a minimum angle of forty-five (45) degrees measured from the center lines of the sanitary sewer and water main.
(3) The conditions specified in subdivisions (1) and (2) must be maintained for a minimum distance of ten (10) feet from either side of the sanitary sewer as measured from the outside edge of the sanitary sewer to the outside edge of the water main.
(b) A shorter separation distance than that specified in subsection (a) is allowed if the following is conducted within the separation distances specified in subsection (a):

(1) The sanitary sewers meet all water main pressure testing requirements as described in 327 IAC 8-3.2-17(a).
(2) The sanitary sewer shall be constructed of materials in conformance with one (1) of the following:
(A) 327 IAC 8-3.2-8.
(B) Section 8(a)(1) of this rule.
(C) ASTM D2241-96b, Standard Specification for Poly Vinyl Chloride (PVC) Pressure-Rated Pipe, and having a SDR (standard dimension ratio) of 21.
(3)The sanitary sewers and water mains are no in contact.
(4)Any sanitary sewer joints are compression type joints that are placed equidistantly from the water main.
(5) The sanitary sewer and water main are laid on separate trench shelves.
(c) No sanitary sewer manhole shall be within eight (8) feet of a water main as measured from the outside edge of the sanitary sewer manhole to the outside edge of the water main.

17. Trench shall be opened sufficiently ahead of pipe laying to reveal obstruction, and shall be properly protected and/or barricaded when left unattended.

18. No water shall be permitted to flow into the sanitary sewer system during construction. Contractor shall utilize a pump to keep the water level below the pipe. Pump discharge shall be directed to a storm outlet in accordance with state and federal laws and regulations (327-IAC 3-6-20). Any pipe entering existing sewers shall be plugged with screw type mechanical, braced plug until such time as all tests on the sewers have been completed and the lines have passed all punch lists.

19. All sewer laterals installed by the mainline Contractor shall be bedded the same as the main line sewer.

20. Forty-eight (48) hours notice shall be given to Newport Chemical Depot Reuse Authority prior to the start of sewer construction. Also, 48 hours notice shall be given prior to doing any testing done on the sewer.

21. Manhole castings shall be stamped SANITARY SEWER, Neenah Casting R-1772, solid lid or approved equal. The casting flange shall be 34 inches and the clear opening shall be 24 inches. Waterproof castings shall be Neenah R-1755-C and stamped SANITARY SEWER.

22. The minimum slope for sewer acceptance is.

Size of Pipe	Minimum Constructed Slope
8-inch	0.40%
10-inch	0.28%
12-inch	0.22%
15-inch	0.15%
18-inch	0.12%

23. The Contractor shall provide measurements of the slope of the sewer for each manhole section as construction progresses. Such measurements shall be certified by a Registered Land Surveyor or Engineer and be available on-site for observation by the District's Inspector. No more than three manhole sections can be constructed in advance of such measurements.

24. In the event the Contractor does not meet the minimum slopes, the sewer section and any other affected sewer sections shall be reconstructed to meet such minimum slopes.

25. Laterals are to be traced with a minimum size of 14 gauge wire from the wye to the terminus. The contractor for the building or home will extend the wire from this terminus to the building cleanout adjacent to the building.

TABLE 1
MINIMUM SPECIFIED TIME REQUIRED FOR A 1.0 psig DROP FOR SIZE AND LENGTH OF PIPE INDICATED

Pipe Diameter In.	Minimum Time, min:s	Length for Minimum Time, ft	Time for Longer Length, S	Specification Time for Length (L) Shown, min:s							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	3:48	597	0.360 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	386	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	8:26	239	2.374 L	9:28	9:28	9:28	9:63	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:58	22:47	25:38
16	14:10	158	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.682 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	18:60	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	89	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.388 L	35:37	53:26	71:13	89:02	108:50	124:38	142:25	160:15
33	31:10	72	25.852 L	49:05	64:38	88:10	107:49	129:18	150:43	172:21	193:53
38	34:00	86	30.788 L	61:17	76:55	102:12	128:12	153:80	179:29	205:07	230:46

REVISIONS		
DATE	DESCRIPTION	BY
6/6/16	REVISED PER REVIEW COMMENTS	HWC

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - SCOTTSBURG
www.hwcengineering.com

VERMILLION RISE SHELL BUILDING
NEWPORT, INDIANA

SPECIFICATIONS

TRAVIS P. GAITHER
REGISTERED
No. 10809039
STATE OF INDIANA
PROFESSIONAL ENGINEER

Travis P. Gaither

DRAWN BY	
TD	JOB NUMBER 2015-186
CHECKED BY	
TG	
DATE	
APRIL 22, 2016	
SCALE	
AS SHOWN	

SHEET

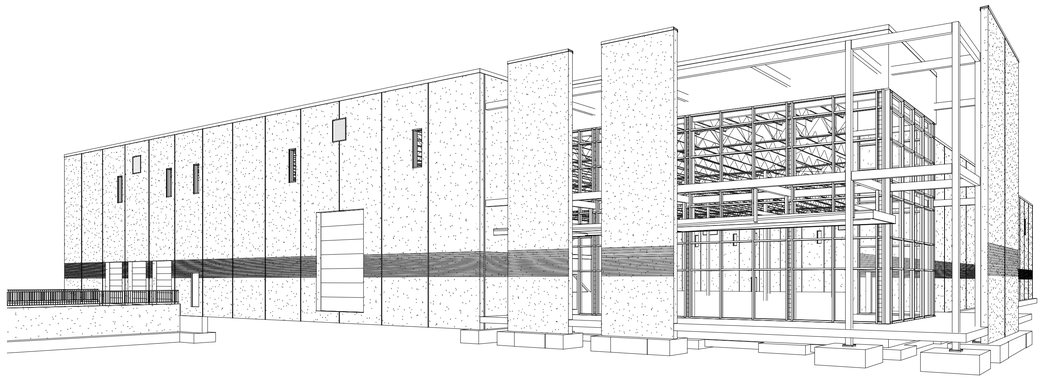
C9.0

SPECIFICATIONS

VERMILLION RISE MEGA PARK

C.H. GARMONG & SONS, INC.

VERMILLION COUNTY, IN



CONSTRUCTION DOCUMENTS

04-15-16

ARCHITECT

BLDD ARCHITECTS

INDEX OF DRAWINGS

ARCHITECTURAL

License Expiration Date:

Date Signed:

BUILDING REQUIREMENTS

2014 INDIANA BUILDING CODE
2010 INDIANA ENERGY CONSERVATION CODE
2010 ADA STANDARDS FOR ACCESIBLE DESIGN

SET NO.

date 04-15-16
revised

drawn by JPP
checked by DYW

BLDD ARCHITECTS

Design Firm Registration #184-000723

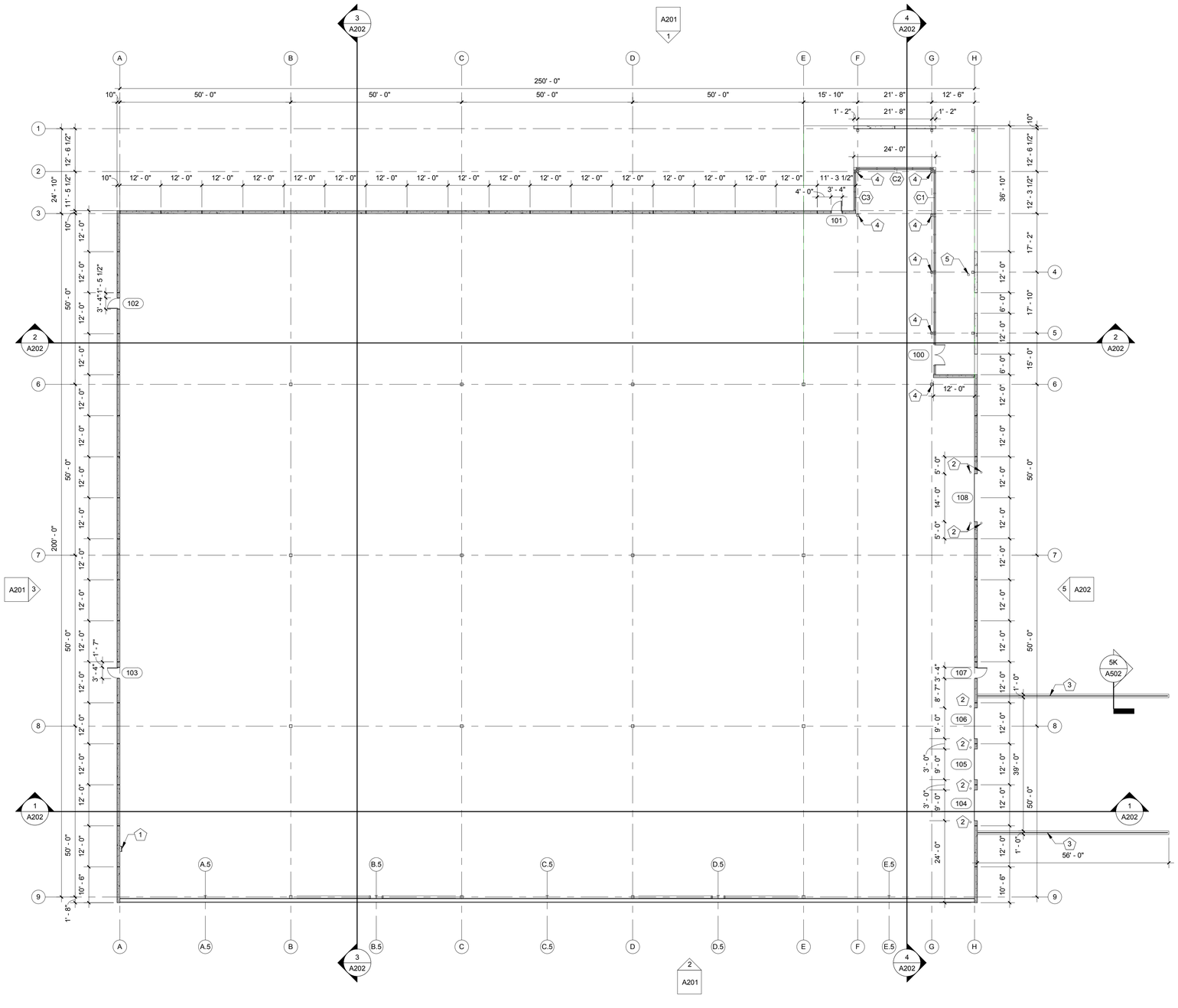
COVER SHEET

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet

G101

project 143BX03.400



6B FIRST FLOOR PLAN
1/16" = 1'-0"

GENERAL NOTES

1. GENERAL NOTES PERTAIN TO ALL ARCHITECTURAL DRAWINGS.
2. TOP OF FIRST FLOOR SLAB = 100'-0" UNLESS OTHERWISE NOTED.
3. GROUT ALL HOLLOW METAL FRAMES SOLID.
4. ABBREVIATIONS:
   AFF ABOVE FINISHED FLOOR
   PJ PANEL JOINT

PAINT SCHEDULE

PT-A	AS SELECTED FROM FULL RANGE OF COLOR OPTIONS.
PT-B	AS SELECTED FROM FULL RANGE OF COLOR OPTIONS.
PT-C	AS SELECTED FROM FULL RANGE OF COLOR OPTIONS.
PT-D	AS SELECTED FROM FULL RANGE OF COLOR OPTIONS.

LEGEND

101	DOOR NUMBER - SEE SHEET A401 FOR DOOR SCHEDULE
W1	WINDOW TYPE - SEE SHEET A401
1 / A101 SIM	DETAIL REFERENCE: DETAIL NUMBER (TOP) SHEET NUMBER (BOTTOM)
1 / A101 SIM	BUILDING SECTION: DETAIL NUMBER (TOP) SHEET NUMBER (BOTTOM)
1 / A101 SIM	WALL SECTION: DETAIL NUMBER (TOP) SHEET NUMBER (BOTTOM)
1 / A201	BUILDING ELEVATION: DETAIL NUMBER (OUTSIDE) SHEET NUMBER (INSIDE)
A701 / 1	INTERIOR ELEVATION: DETAIL NUMBER (OUTSIDE) SHEET NUMBER (INSIDE)
	SPOT ELEVATION
1	KEYNOTE

FLOOR PLAN KEYED NOTES

1	OHSA APPROVED LADDER WITH CAGE
2	6" DIA. PLASTIC COVERED CONCRETE FILLED METAL BOLLARD
3	STEEL GUARD RAIL
4	STEEL COLUMN - PAINT PT-D
5	ROOF DRAIN TO BOOT CONNECTION. COORDINATE FINAL LOCATION OF CONNECTION TO STORM PIPING.

date 04-15-16
revised 05-09-16

drawn by JPP
checked by DYW

EBLDD ARCHITECTS
Design Firm Registration #184-000723

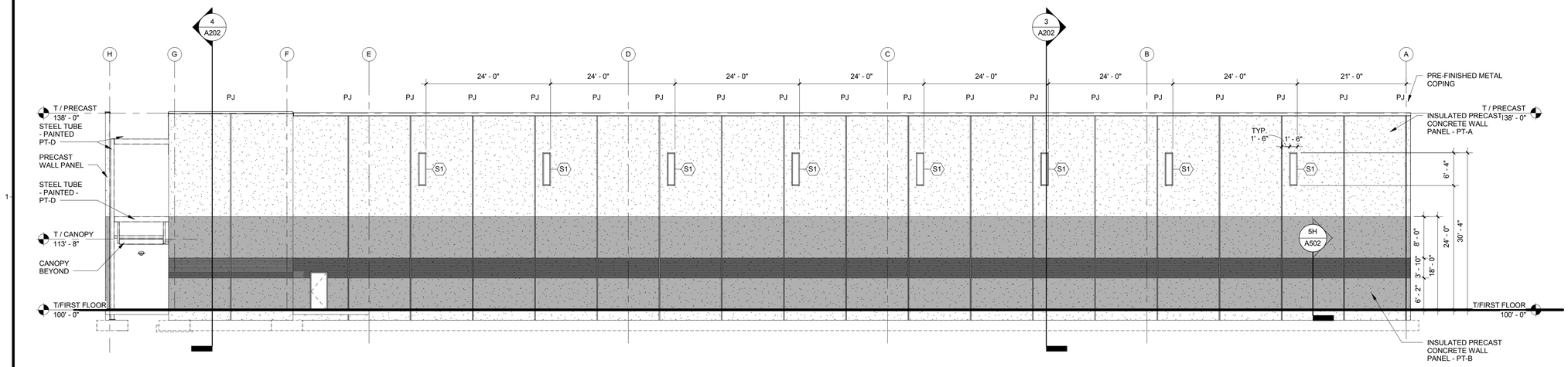
FLOOR PLAN

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
A101

project 143BX03.400

CONSTRUCTION DOCUMENTS



1 EAST ELEVATION
3/32" = 1'-0"

2 WEST ELEVATION
3/32" = 1'-0"

3 NORTH ELEVATION
3/32" = 1'-0"

date 04-15-16
revised 05-09-16

drawn by DYW / JPP
checked by DYW

BLDD ARCHITECTS

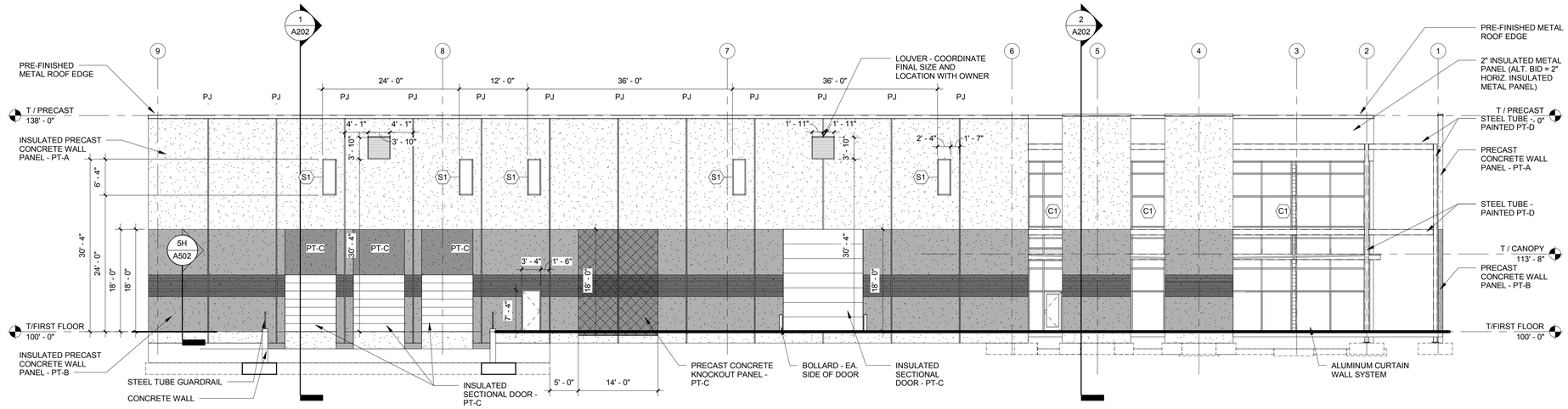
Design Firm
Registration
#184-000723

BUILDING ELEVATIONS
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

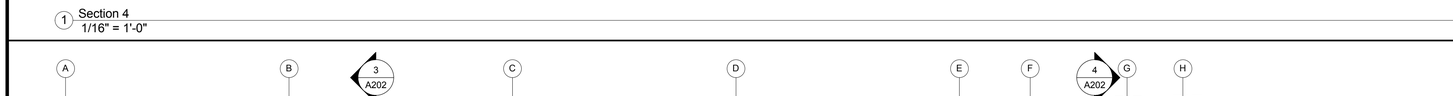
sheet
A201

project 143BX03.400

CONSTRUCTION DOCUMENTS



5 SOUTH ELEVATION
3/32" = 1'-0"



1 Section 4
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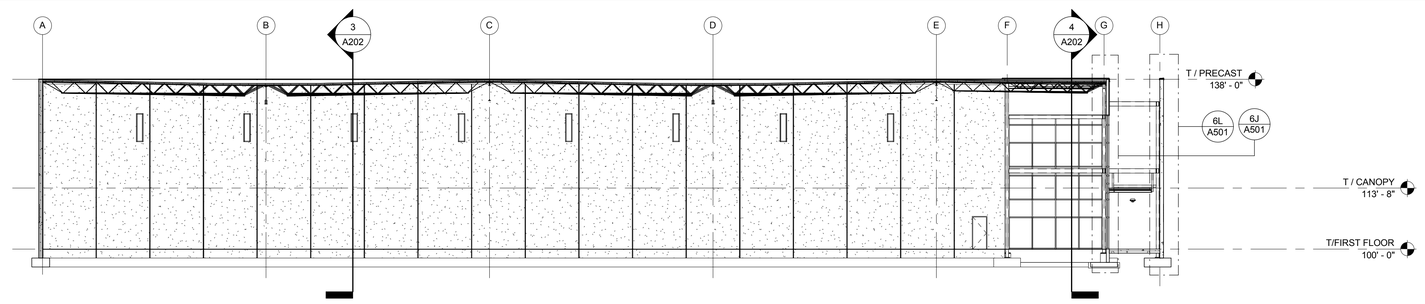

2 Section 5
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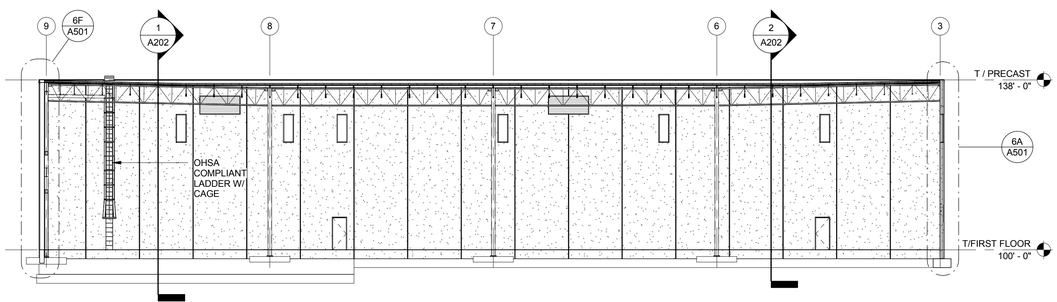

3 Section 6
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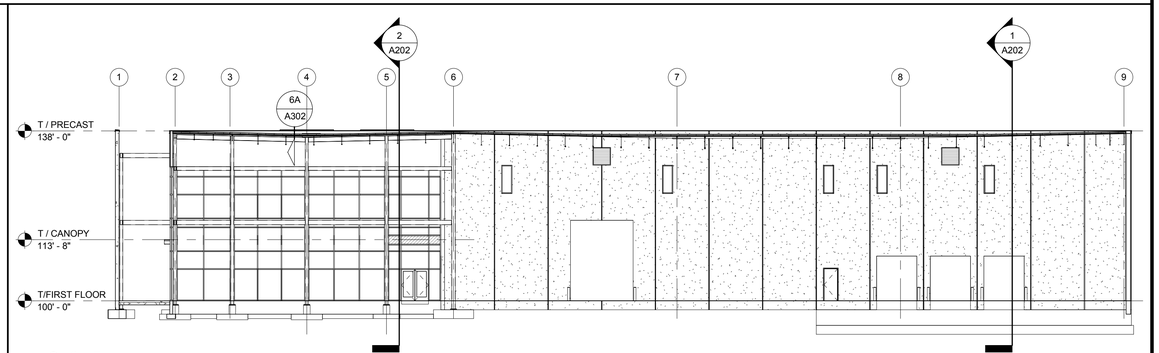


4 Section 7
1/16" = 1'-0"

date 04-15-16
revised 05-09-16

drawn by DYW / JPP
checked by DYW

BLDD ARCHITECTS

Design Firm Registration #184-000723

BUILDING ELEVATIONS / SECTIONS

VERMILLION RISE MEGA PARK

C.H. GARMONG & SONS, INC.

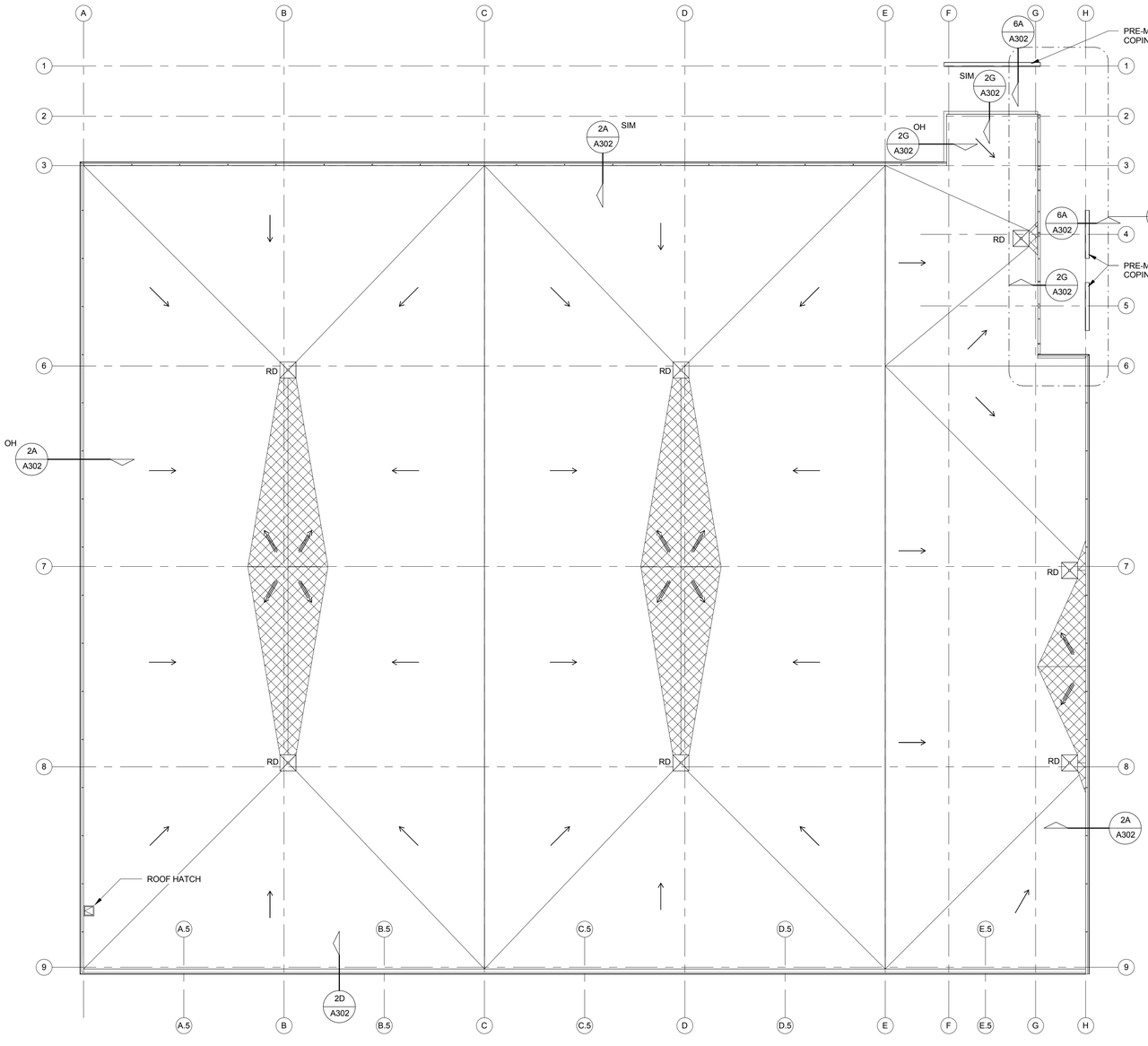
VERMILLION COUNTY, IN

sheet

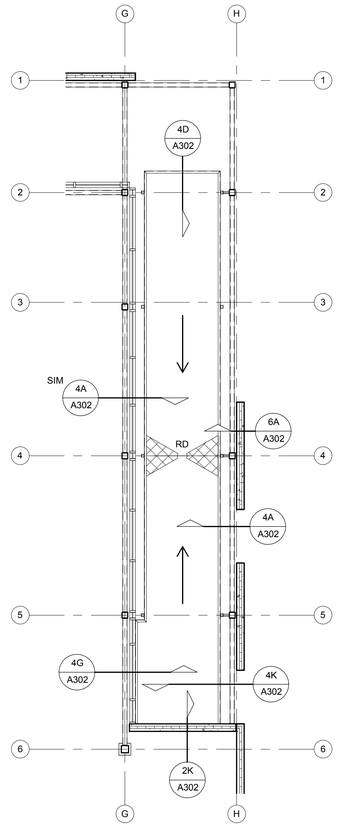
A202

project 143BX03.400

CONSTRUCTION DOCUMENTS



6B ROOF PLAN
1/16" = 1'-0"



6J ROOF PLAN - CANOPY
1/8" = 1'-0"

ROOFING GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND CONDITIONS.
2. CONTRACTOR TO COORDINATE ROOF WORK WITH MECHANICAL, ELECTRICAL, AND PLUMBING WORK. ITEMS NOT SPECIFICALLY IDENTIFIED ON THE ROOF PLAN , BUT INDICATED ON THE MECHANICAL, ELECTRICAL OR PLUMBING DRAWINGS SHALL BE INSTALLED IN ACCORDANCE TO THE APPROPRIATE DETAIL FOR THAT WORK.
3. CRICKETS SHALL BE INSTALLED UP-SLOPE OF ALL ROOFTOP EQUIPMENT CURBS.
4. ROOFING SYSTEM:

   - STRUCTURALLY SLOPED DECK
   - 4" POLYISOCYANURATE INSULATION
     (2 LAYERS - 2" INSUL. BD.)
   - ADHERED TPO ROOFING MEMBRANE

5. ROOF EDGE:
   TYPICAL - PRE-MAUFACTURE METAL ROOF EDGE

   PRE-CAST "FREE STANDING" WALLS - PRE-MAUFACTURE METAL ROOF COPING CAP

6. ROOFING SYSTEM @ CANOPY:

   - STRUCTURALLY SLOPED DECK
   - 5/8" COVER BOARD - ADHERED
   - ADHERED TPO ROOFING MEMBRANE

   ABBREVIATIONS:
   RD ROOF DRAIN
   T/O TOP OF
   T/O/P TOP OF PARAPET

ROOFING PLAN LEGEND

- TAPERED INSULATION
- ROOF DRAIN WITH INTEGRAL OVERFLOW AND SUMP - USE ROOFING MANUFACTURER'S STANDARD DETAIL.
- ROOF DRAIN - USE ROOFING MANUFACTURER'S STANDARD DETAIL.
- ROOF HATCH - USE ROOFING MANUFACTURER'S STANDARD DETAIL.
- STRUCTURAL SLOPE OF ROOF DECK
- SLOPE OF 1/2" TAPERED INSULATION

date	04-15-16
revised	05-09-16
drawn by	JPP
checked by	DYW

ELDD ARCHITECTS

Design Firm Registration #184-000723

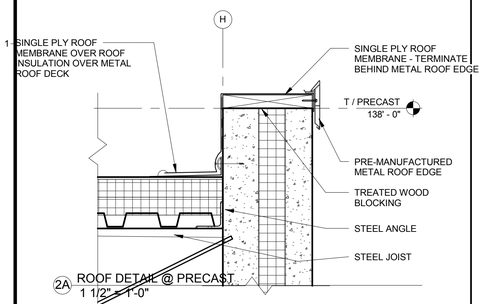
ROOF PLAN

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

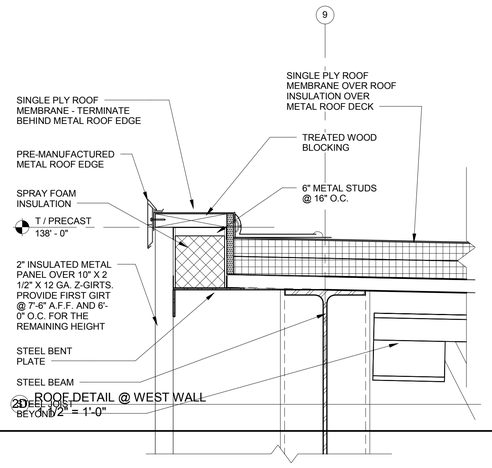
sheet
A301

project 143BX03.400

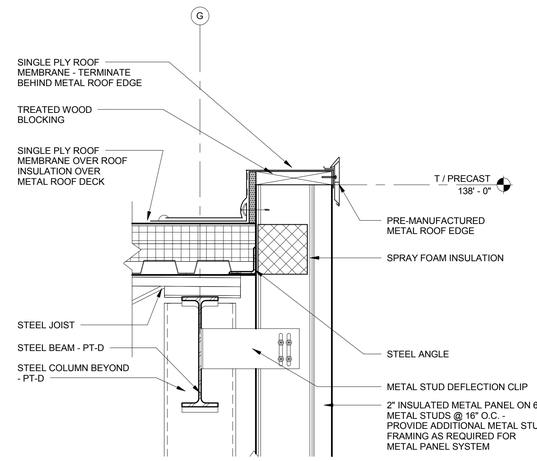
CONSTRUCTION DOCUMENTS



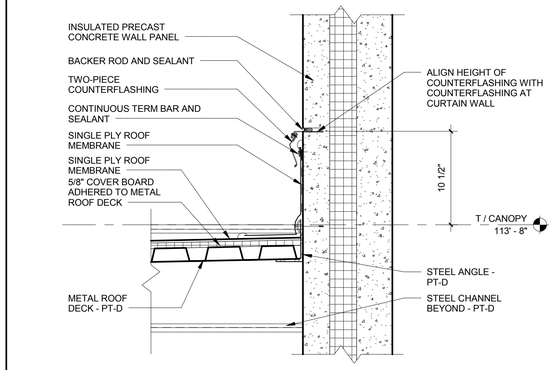
2A ROOF DETAIL @ PRECAST
1 1/2" = 1'-0"



2D ROOF DETAIL @ WEST WALL
1 1/2" = 1'-0"



2G ROOF DETAIL @ ENTRY
1 1/2" = 1'-0"



2K CANOPY ROOF DETAIL AT PRECAST
1 1/2" = 1'-0"

4A CANOPY ROOF EDGE DETAIL
1 1/2" = 1'-0"

4D CANOPY ROOF EDGE DETAIL - EAST
1 1/2" = 1'-0"

4G CANOPY ROOF DETAIL AT ENTRY
1 1/2" = 1'-0"

4K CANOPY ROOF DETAIL
1 1/2" = 1'-0"

6A ROOF DETAIL AT FREE STANDING PRE-CAST WALL
1 1/2" = 1'-0"

date	04-15-16
revised	05-09-16
drawn by	JPP
checked by	DYW

BLDD ARCHITECTS

Design Firm Registration #184-000723

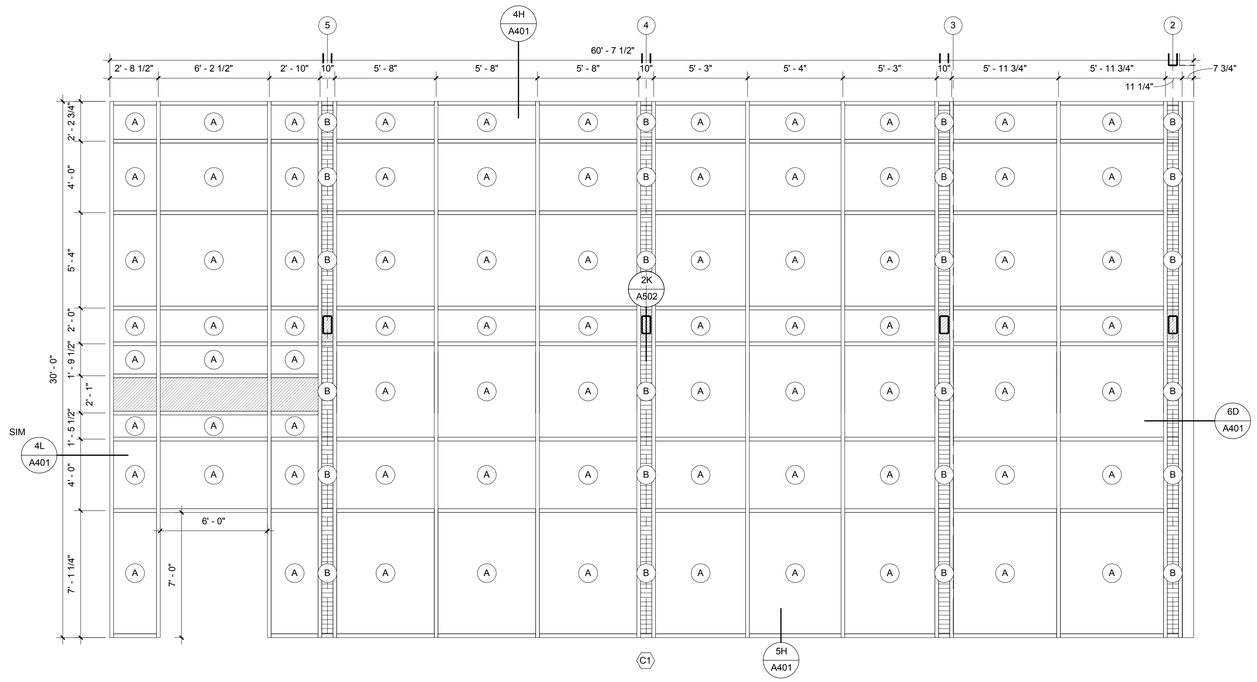
ROOF DETAILS

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
A302

project 143BX03.400

CONSTRUCTION DOCUMENTS



DOOR SCHEDULE

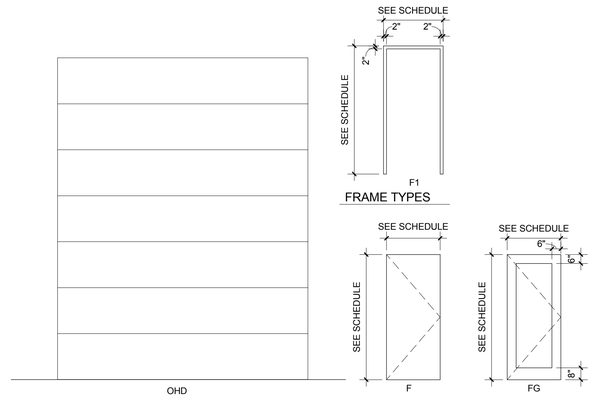
NO.	DOOR WIDTH	DOOR HEIGHT	DOOR MAT	DOOR FIN	DOOR TYPE	FRAME MAT	FRAME FIN	FRAME TYPE	UL LABEL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HARDWARE GROUP	REMARKS
100	6' - 0"	7' - 0"	AL	PRE	FG	AL	PRE	C1	--	--	--	--	2	
101	3' - 0"	7' - 2"	HM	PT	F	HM	PT	F1	--	6H/A401	6H/A401	--	1	R1
102	3' - 0"	7' - 2"	HM	PT	F	HM	PT	F1	--	6H/A401	6H/A401	--	1	R1
103	3' - 0"	7' - 2"	HM	PT	F	HM	PT	F1	--	5L/A401	6L/A401	--	1	R1
104	9' - 0"	10' - 0"	STIN	PT	OHD	ST	PRE	VLT	--	5L/A401	6L/A401	--	--	R2
105	9' - 0"	10' - 0"	STIN	PT	OHD	ST	PRE	VLT	--	5L/A401	6L/A401	--	--	R2
106	9' - 0"	10' - 0"	STIN	PT	OHD	ST	PRE	VLT	--	5L/A401	6L/A401	--	--	R2
107	3' - 0"	7' - 2"	HM	PT	F	HM	PT	F1	--	6H/A401	6H/A401	--	1	R1
108	14' - 0"	18' - 0"	STIN	PT	OHD	ST	PRE	VLT	--	5L/A401	6L/A401	--	--	R2

ABBREVIATIONS

AL	ALUMINUM
HM	HOLLOW METAL
PRE	PREFINISHED
PT	PAINT
ST	STEEL
STIN	STEEL INSULATED
VLT	VERTICAL LIFT TRACK

REMARKS

R1	PAINT HOLLOW METAL DOOR PT-B. REFER TO PAINT SCHEDULE ON A101 FOR ADDITIONAL INFORMATION.
R2	PAINT HOLLOW METAL DOOR PT-C. REFER TO PAINT SCHEDULE ON A101 FOR ADDITIONAL INFORMATION.



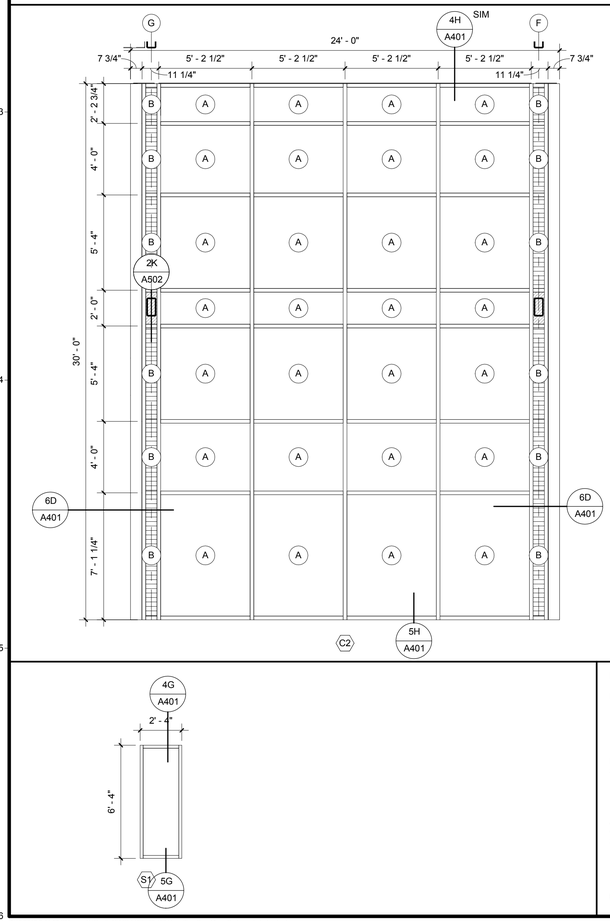
DOOR TYPES

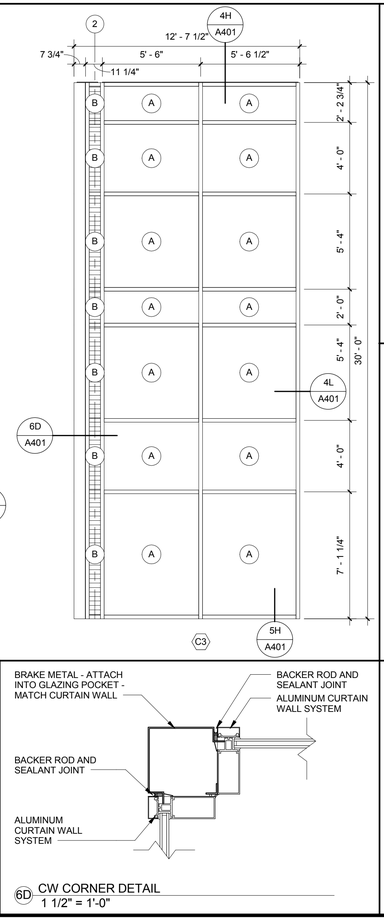
GLAZING TYPES

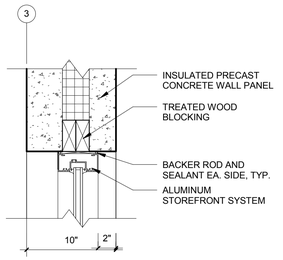
- (A) GL-1 : 1" INSULATED GLAZING (PROVIDE SAFETY GLAZING AS REQUIRED BY CODE)
- (B) GL-2 : 1" INSULATED TINTED GLAZING (PROVIDE SAFETY GLAZING AS REQUIRED BY CODE)
- INSULATED VENEER PANEL (BASIS OF DESIGN: MAPES)

GLAZING NOTES

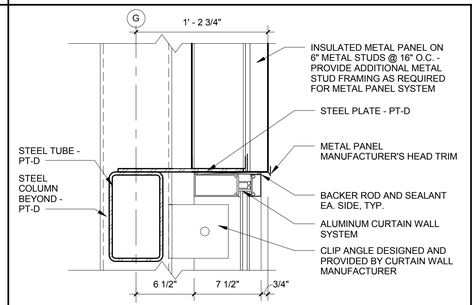
1. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION.
2. CW = ALUMINUM CURTAIN WALL SYSTEM
   S = ALUMINUM STOREFRONT SYSTEM
3. REFER TO GLAZING SPECIFICATION FOR FULL DESCRIPTION OF GLAZING AND SCHEDULE OF GLAZING.
4. PROVIDE INSULATED INFILL PANEL MANUFACTURER'S STANDARD TRIM PIECES, MOLDINGS, THERMAL BLOCKS, AND SEALANTS.



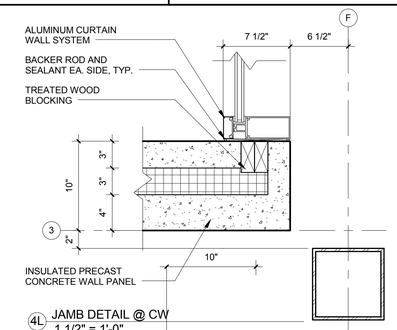




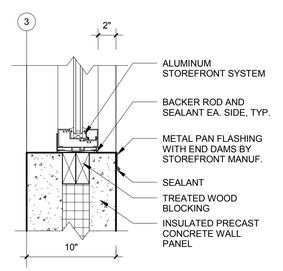
4G HEAD DETAIL AT PRECAST
1 1/2" = 1'-0"



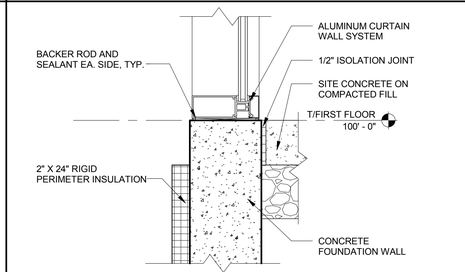
4H HEAD DETAIL @ CW
1 1/2" = 1'-0"



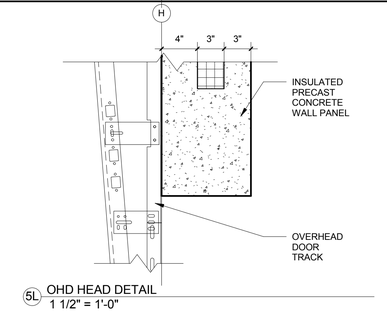
4L JAMB DETAIL @ CW
1 1/2" = 1'-0"



5G SILL DETAIL AT PRECAST
1 1/2" = 1'-0"

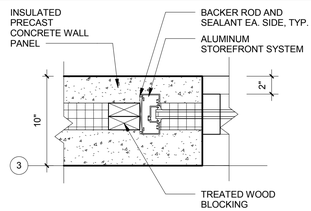


5H SILL DETAIL @ CW
1 1/2" = 1'-0"

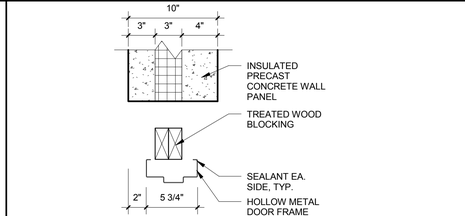


5L OHD HEAD DETAIL
1 1/2" = 1'-0"

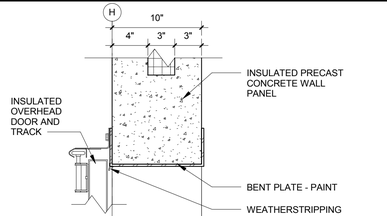
6D CW CORNER DETAIL
1 1/2" = 1'-0"



6G JAMB DETAIL AT PRECAST
1 1/2" = 1'-0"



6H HM DOOR JAMB / HEAD @ PRECAST
1 1/2" = 1'-0"



6L OHD JAMB DETAIL
1 1/2" = 1'-0"

date	04-15-16
revised	
drawn by	JPP
checked by	DYW

BLDD ARCHITECTS

Design Firm Registration #184-000723

DOOR / WINDOW SCHEDULE AND DETAILS

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

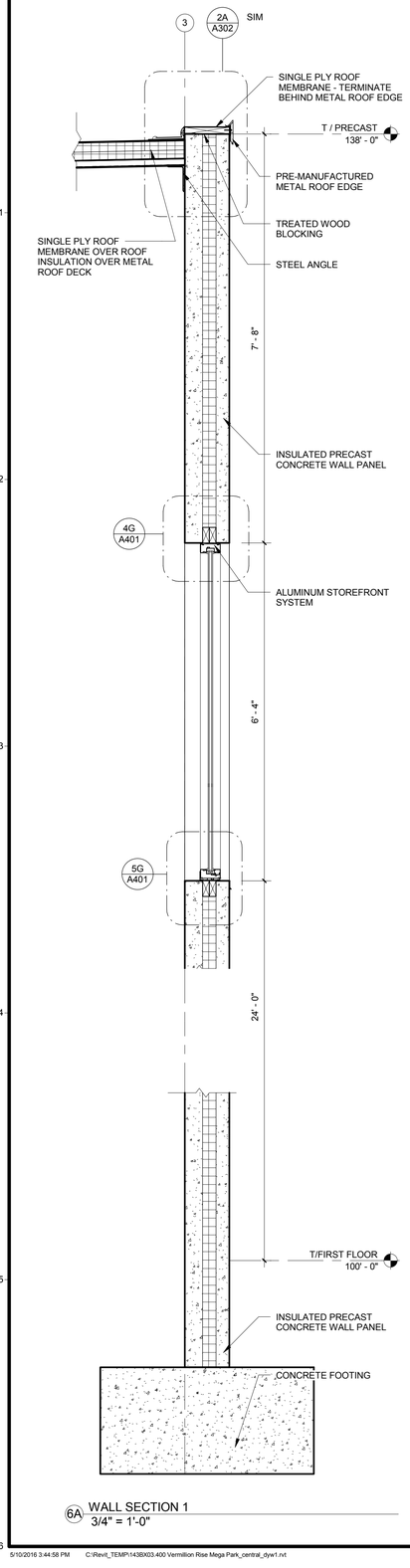
sheet

A401

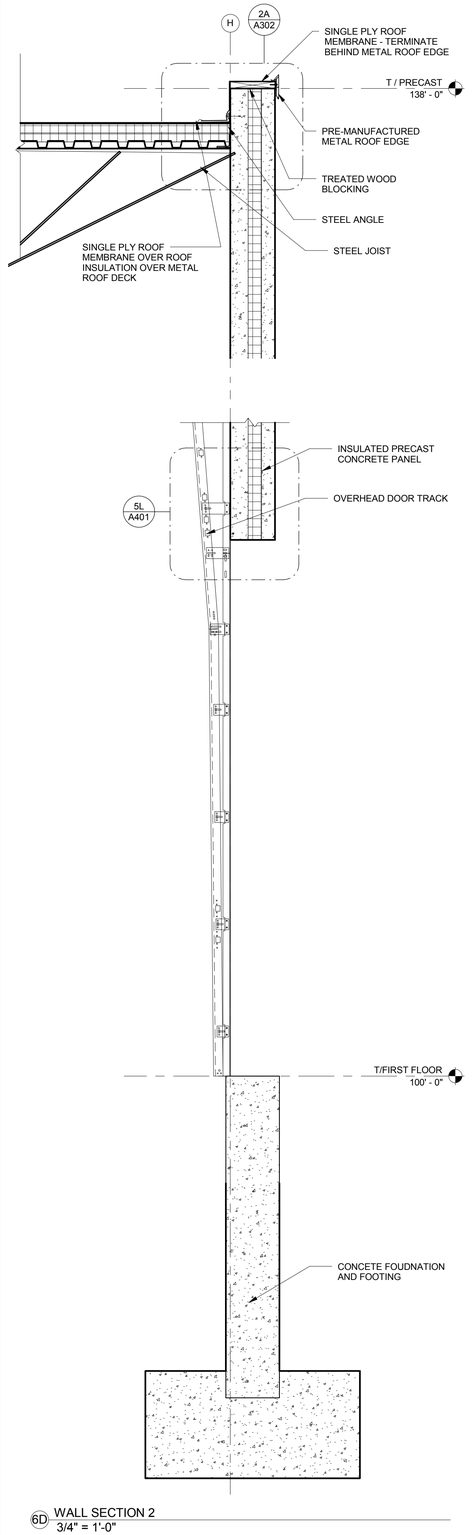
project 143BX03.400

CONSTRUCTION DOCUMENTS

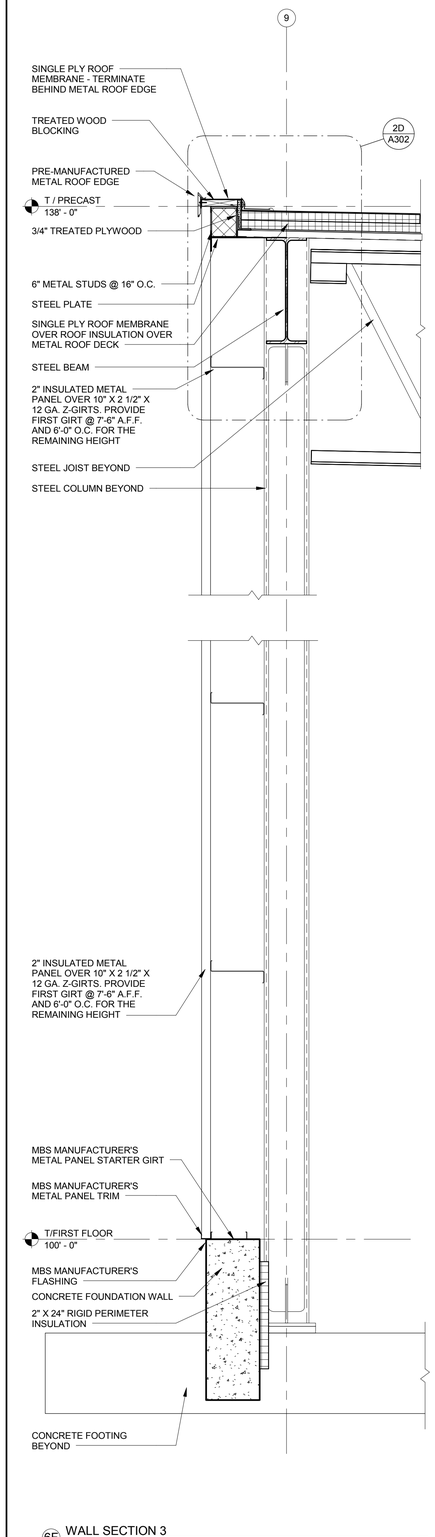
5/10/2016 3:44:57 PM C:\Revit_TEMP\143BX03.400 Vermillion Rise Mega Park_central_dyw1.rvt



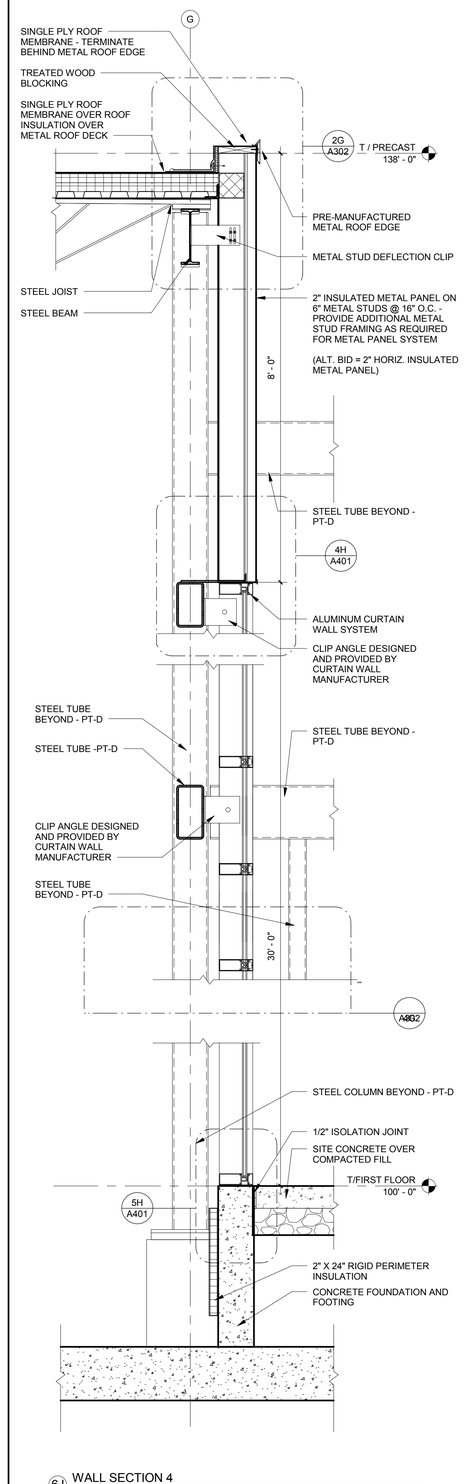
6A WALL SECTION 1
3/4" = 1'-0"



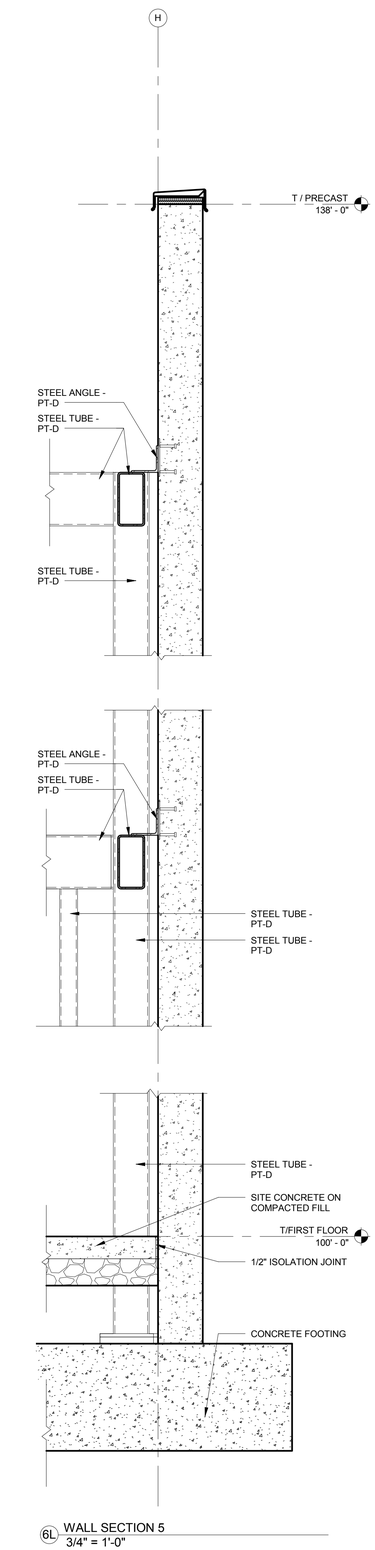
6D WALL SECTION 2
3/4" = 1'-0"



6F WALL SECTION 3
3/4" = 1'-0"



6J WALL SECTION 4
3/4" = 1'-0"



6L WALL SECTION 5
3/4" = 1'-0"

date 04-15-16
revised 05-09-16

drawn by JPP
checked by DYW

BLDD ARCHITECTS

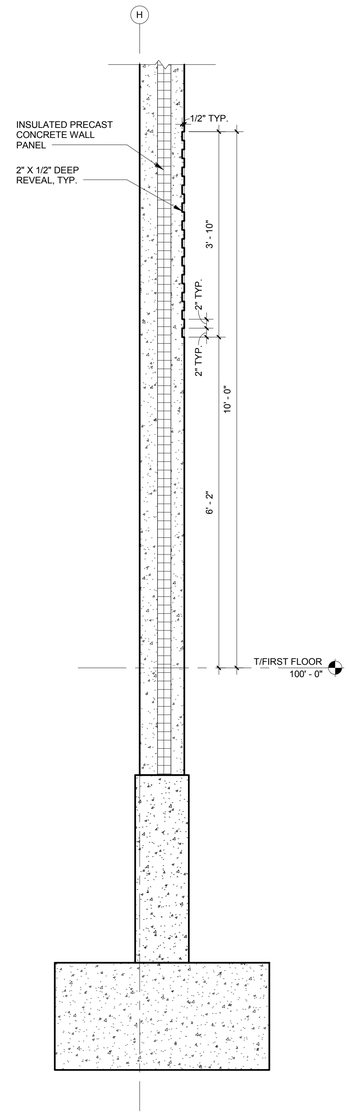
Design Firm Registration #184-000723

WALL SECTIONS

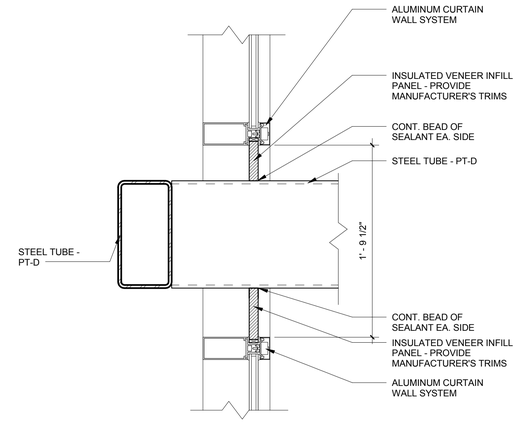
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
A501

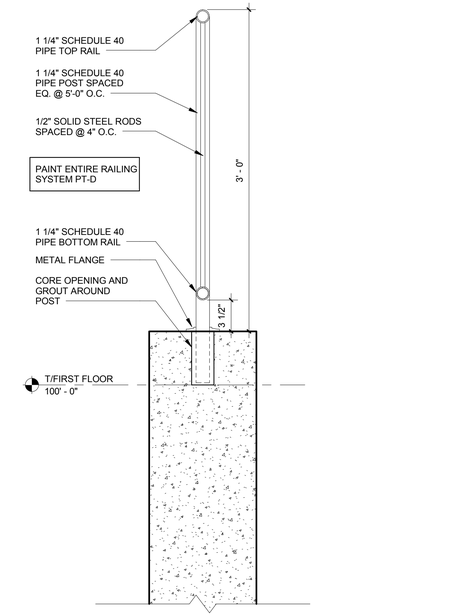
project 143BX03.400



5H WALL SECTION 6 - REVEL DETAIL
3/4" = 1'-0"



2K BEAM PENETRATION AT CW - PANEL INFILL
1 1/2" = 1'-0"



5K RAILING DETAIL
1 1/2" = 1'-0"

date 04-15-16
revised

drawn by JPP
checked by DYW

BLDD ARCHITECTS

Design Firm Registration #184-000723

MISC. DETAILS

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
A502

project 143BX03.400

CONSTRUCTION DOCUMENTS

GENERAL

1. CODES:

IBC	INTERNATIONAL BUILDING CODE, 2012
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360 ASD)
AWS	AMERICAN WELDING SOCIETY
SDI	STEEL DECK INSTITUTE
SJI	STEEL JOIST INSTITUTE

2. DIMENSIONS ON STRUCTURAL DRAWINGS ARE TO BE CHECKED AGAINST THE ARCHITECTURAL DRAWINGS AND SITE SURVEY AS WELL AS AGAINST FIELD CONDITIONS BY CONTRACTORS. VERIFY ANY DISCREPANCIES, CONFLICTING CONDITIONS OR DIMENSIONS WITH ARCHITECT BEFORE PROCEEDING WITH THE WORK.
3. DRAWINGS ARE NOT TO BE SCALED IN THE FIELD.
4. UNLESS NOTED OTHERWISE, DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS/ CONDITIONS ELSEWHERE.

FOUNDATIONS

1. USE NECESSARY METHODS TO EFFECTIVELY MAINTAIN THE CONSTRUCTION AREA IN A DEWATERED STATE.
2. ALL SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SUBGRADE WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 2500 PSF FOR SPREAD FOOTINGS AND 2000 PSF FOR CONTINUOUS FOOTINGS, AS INDICATED IN THE GEOTECHNICAL REPORT AND AS FIELD VERIFIED AND APPROVED BY THE SOIL TESTING LABORATORY.
3. THE SOIL SUBGRADE FOR ALL FOOTINGS AND SLABS SHALL BE INSPECTED AND APPROVED BY THE TESTING LABORATORY IMMEDIATELY PRIOR TO PLACING CONCRETE. IMMEDIATELY NOTIFY THE ARCHITECT IN THE EVENT THAT THE SOIL CONDITIONS ENCOUNTERED VARY FROM THOSE SHOWN IN THE SOILS REPORT.
4. ALL FOOTING SUBGRADES SHALL BE COMPACTED TO 95 PERCENT OF STANDARD PROCTOR (ASTM D698) MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS REQUIRED.
5. FOOTINGS MAY BE BANK FORMED WHEN SOIL CONDITIONS OR FOUNDATION DESIGN PERMITS.
6. ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUBGRADE AND BACKFILL AREAS AND BACKFILLED WITH LEAN CONCRETE OR SELECT FILL, COMPACTED TO 98 PERCENT OF STANDARD PROCTOR (ASTM D698) MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. LIFT THICKNESS SHALL BE MINIMIZED TO ALLOW FOR EFFICIENT COMPACTION. NO FILL SHALL BE PLACED OVER A PREVIOUS LIFT WHICH HAS NOT BEEN ADEQUATELY COMPACTED.
7. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF A FOUNDATION WALL, PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS AT UNIFORM LEVELS OF FILL.
8. NO FOOTINGS SHALL BE PLACED ONTO, OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER, FROST OR ICE ENTER AN EXCAVATED AREA AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE REINSPECTED AFTER THE REMOVAL OF WATERFROST OR ICE.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
10. THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE (1) CONTINUOUS PLACEMENT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF INSERTS, HANGERS, SLEEVES, CHASES, OPENINGS, DUCTWORK, CONDUIT, PADS, ANCHOR RODS AND ALL OTHER ITEMS THAT ARE REQUIRED BY MECHANICAL EQUIPMENT.
12. THE CONTRACTOR SHALL PROTECT ALL NEW AND EXISTING UTILITIES FROM DAMAGE. BRACE AND SUPPORT THE UTILITIES TO PREVENT SETTLEMENT, DISPLACEMENT, OR DISTURBANCE TO THE UTILITY.

STRUCTURAL STEEL

1. STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, UNLESS NOTED OTHERWISE. STRUCTURAL STEEL PLATES, ANGLES, CHANNELS AND MISCELLANEOUS MATERIAL SHALL CONFORM TO ASTM A36. HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO ASTM A500, GRADE B.
2. ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, 3/4" DIAMETER WITH A 9" MINIMUM EMBEDMENT, UNLESS NOTED OTHERWISE.
3. ALL STRUCTURAL STEEL SHALL BE STRAIGHT AND FREE OF TWIST. COLUMN BEARING ENDS SHALL BE TRUE AND SQUARE. ALL COLUMNS SHALL BE PLUMB AND LEVEL BEARING.
4. HIGH STRENGTH BOLTING SHALL BE DONE IN ACCORDANCE WITH AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS" AND BOLTS SHALL BE 3/4" DIAMETER MINIMUM.
5. ALL BOLTED CONNECTIONS THAT TRANSFER AXIAL LOADS SHALL UTILIZE HIGH STRENGTH, SLIP CRITICAL BOLTS IN SINGLE OR DOUBLE SHEAR FOR THE CAPACITIES REQUIRED.
6. WELDING SHALL BE DONE BY CERTIFIED WELDERS AND SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE - STEEL", LATEST EDITION. ALL WELDING ELECTRODES SHALL COMPLY TO AWS CODE REQUIREMENTS. THE MINIMUM FILLET WELD SIZE SHALL COMPLY WITH AISC REQUIREMENTS, BUT SHALL NOT BE LESS THAN 3/16", UNLESS NOTED OTHERWISE.
7. UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE EITHER AISC SINGLE PLATE OR DOUBLE ANGLE SHEAR CONNECTIONS USING A325-N BOLTS.
8. BEAMS AND JOISTS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP.
9. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ARCHITECT.

STEEL JOISTS

1. JOISTS SHALL REQUIRE CONTINUOUS BRIDGING MEMBERS FASTENED DIRECTLY TO EACH JOIST. BRIDGING SHALL BE DESIGNED IN ACCORDANCE WITH THE "STEEL JOIST INSTITUTE SPECIFICATION" AND SHALL BE PROVIDED BY THE JOIST MANUFACTURER.
2. ROUND MEMBERS FOR BOTTOM CHORDS WILL NOT BE ACCEPTABLE FOR JOISTS. USE ONLY DOUBLE ANGLE BOTTOM CHORDS.
3. UNLESS NOTED OTHERWISE, HANGING LOADS FROM JOISTS SHALL BE ONLY FROM DIAGONAL INTERSECTION POINTS AND ONLYACCEPTABLE JOIST HANGER DEVICES.
4. THE CONTRACTOR SHALL COORDINATE COLUMN CAP PLATES WITH THREADED STUDS AS REQUIRED FOR JOIST SEAT ATTACHMENT WITSTEEL FABRICATOR.

STRUCTURAL METAL DECK

1. METAL DECKING SHALL BE WELDED AT 12 INCHES MAXIMUM ON CENTER TO THE SUPPORTING STEEL, WITH A MINIMUM 5/8-INCH DIAMETER WELD. SIDE LAPS SHALL BE FASTENED AT 24 INCHES MAXIMUM ON CENTER. NO WELD OR FASTENER SPACING SHALL BE GREATER THAN THAT RECOMMENDED BY THE DECK MANUFACTURER.
2. THE METAL DECK SHALL BE DESIGNED TO BE UNSHORED AND TO BE CONTINUOUS OVER THREE (3) SPANS IN THE DIRECTION INDICATED. SINGLE AND DOUBLE SPANS, IF REQUIRED, SHALL SATISFY LOAD AND DEFLECTION REQUIREMENTS.
3. PROVIDE CONTINUOUS 16 GA. MINIMUM SHEET METAL CLOSURES AT SLAB OPENINGS AND SLAB EDGES AND CONTINUOUS DECK CLOSURE AT DECK ENDS.
4. PROVIDE, AS REQUIRED, RIDGE AND VALLEY PLATES, COLUMN CLOSURES, CANT STRIPS, SUMP PLATES AT PIPING PENETRATIONS AND RECESSED SUMP PANS AT ROOF DRAINS. PROVIDE SUPPLEMENTAL FRAMING AT OPENINGS AS REQUIRED FOR SUPPORT OF THE METAL DECK. OPENINGS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
5. ANY METAL DECK OPENING THAT IS 12-INCH DIAMETER OR LARGER OR ANY GROUP OF OPENINGS THAT PENETRATE MORE THAN ONE METAL DECK RIB SHALL BE FRAMED WITH L 2x2x1/4" SUPPLEMENTAL STEEL FRAMING AS ACCEPTABLE TO THE ARCHITECT, UNLESS NOTED OTHERWISE
6. A 20 LB. MAXIMUM CONCENTRATED LOAD MAY BE HUNG DIRECTLY FROM METAL ROOF DECK.

CONCRETE

1. ALL CONCRETE WORK SHALL COMPLY TO THE LATEST EDITIONS OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS:

   ACI 301 – SPECIFICATIONS FOR STRUCTURAL CONCRETE
   ACI 304R – GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE
   ACI 306R – COLD WEATHER CONCRETING
   ACI 308R – GUIDE TO CURING CONCRETE
   ACI 318 – BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
   ACI 347 – GUIDE TO FORMWORK FOR CONCRETE

2. UNLESS NOTED OTHERWISE, CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL DEVELOP 4,000 PSI MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS.
3. DO NOT USE ANY CALCIUM CHLORIDE IN ANY CONCRETE.
4. VERTICAL WALL CONSTRUCTION JOINTS SHALL BE FORMED WITH VERTICAL BULKHEADS AND KEYWAYS. WALL REINFORCING SHALL BE CONTINUOUS THROUGH THE JOINT OR SHALL BE DOWELED WITH AN EQUIVALENT AREA OF REINFORCEMENT. WIRE BRUSH, CLEAN AND MOISTEN ALL CONSTRUCTION JOINTS IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF INSERTS, EMBEDDED PLATES, MASONRY ANCHORS, REGLETS, SLEEVES, DUCTWORK, PADS AND ANCHOR RODS. THE INSERTS, EMBEDDED PLATES, ETC. SHALL NOT INTERFERE WITH CONCRETE REINFORCEMENT LOCATION. THE GENERAL CONTRACTOR SHALL VERIFY ALL OPENINGS THROUGH WALLS WITH SHOP DRAWINGS, SHOWING OPENINGS IN THE SLABS INCLUDING, BUT NOT LIMITED TO, SLEEVE SIZES AND LOCATIONS, DUCT SIZE AND LOCATION, ETC.

REINFORCEMENT

1. REINFORCEMENT SHALL CONFORM TO ASTM SPECIFICATION A615, GRADE 60. REINFORCEMENT TO BE WELDED SHALL CONFORM TO ASTM SPECIFICATION A706, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM SPECIFICATION A185, FLAT SHEETS ONLY.
2. CORNER BARS SHALL BE PROVIDED AT WALL CORNERS EQUAL TO THE HORIZONTAL WALL REINFORCEMENT.
3. ALL CONCRETE FORMED WALL OPENINGS SHALL BE REINFORCED WITH 2 NO. 4 BARS, 24" LONG, PLACED ONE IN EACH FACE AT 45 DEGREES TO OPENING CORNERS.
4. THE CONCRETE COVER PROVIDED FOR ALL REINFORCEMENT SHALL COMPLY WITH ACI, 318, LATEST EDITION. THE FOLLOWING CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT UNLESS NOTED OTHERWISE:

   COVER. (INCHES)

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3
CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER	1 1/2
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
NO. 11 BAR AND SMALLER	3/4

5. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT ALL REINFORCEMENT AT THE POSITIONS INDICATED.
6. ALL EMBEDMENT LENGTHS AND LAPS SHALL BE AS REQUIRED BY ACI 318. UNLESS NOTED OTHERWISE, MINIMUM LAP SHALL BE 40 BAR DIAMETERS.

DESIGN LOADS:

DEAD LOADS, SUPERIMPOSED

ROOF	22 psf

LIVE LOADS

ROOF	20 psf

SNOW LOAD

DESIGN UNIFORM ROOF SNOW LOAD,		20 psf
GROUND SNOW LOAD,	Pg =	20 psf
FLAT ROOF SNOW LOAD,	Pf =	14.0 psf
BALANCED SNOW LOAD,	Ps =	14.0 psf
SNOW EXPOSURE FACTOR,	Ce =	1.00
SNOW IMPORTANCE FACTOR,	Is =	1.10
THERMAL FACTOR,	Ct =	1.00
SLOPED ROOF FACTOR,	Cs =	1.00

WIND LOAD

ULTIMATE DESIGN WIND SPEED,		115 MPH
NOMINAL DESIGN WIND SPEED,		90 MPH
RISK CATEGORY,		II
MEAN ROOF HEIGHT	h =	40 ft
WIND EXPOSURE CATEGORY		C
ENCLOSURE CLASSIFICATION		ENCLOSED BUILDING
INTERNAL PRESSURE COEFFICIENT,	GCpi =	+/-0.18
DIRECTIONALITY,	Kd =	0.85
NET UPLIFT		5 psf

COMPONENT AND CLADDING, NOMINAL WIND PRESSURES, C&C < 60'

ROOF — SURFACE PRESSURE (psf)

AREA	10 sf	50 sf	100 sf
Negative Zone 1	-21.3	-20.0	-19.5
Negative Zone 2	-35.7	-26.9	-23.1
Negative Zone 3	-53.7	-32.3	-23.1
Positive Zones	10.0	10.0	10.0
Overhang Zone 1 & 2	-30.6	-29.4	-28.7
Overhang Zone 3	-50.5	-25.3	-14.4

WALL — SURFACE PRESSURE (psf)

AREA	10 sf	100 sf	500 sf
Negative Zone 4	-21.1	-18.2	-16.2
Negative Zone 5	-25.9	-20.2	-16.2
Positive Zone 4 & 5	19.5	16.6	14.6

PARAPET — SURFACE PRESSURE (psf)

AREA	10 sf	100 sf	500 sf
CASE A: INTERIOR ZONE	49.2	33.5	31.5
CORNER ZONE	67.4	33.5	31.5
CASE B: INTERIOR ZONE	-34.4	-28.6	-24.6
CORNER ZONE	-39.3	-30.6	-24.6

SEISMIC LOAD

SEISMIC IMPORTANCE FACTOR,	Ie =	1.00
RISK CATEGORY		III
Ss		19.80%g
S1		9.5%g
SITE CLASS		C
Sds		0.158
Sd1		0.108
SEISMIC DESIGN CATEGORY		B
BASIC STRUCTURAL SYSTEM		BUILDING FRAME AND BEARING WALL SYSTEMS
SEISMIC RESISTING SYSTEM		ORDINARY PRECAST SHEAR WALLS
DESIGN BASE SHEAR,	V =	0.053W
SEISMIC RESPONSE COEFFICIENT,	Cs =	0.053
RESPONSE MODIFICATION FACTOR,	R =	3
ANALYSIS PROCEDURE		EQUIVALENT LATERAL-FORCE ANALYSIS

STRUCTURAL COLUMN SCHEDULE

COLUMN MARK	TOP PLATE ELEVATION	TOP PLATE SIZE	TOP PLATE DETAIL	SECTION	BASE PLATE ELEVATION	BASE PLATE SIZE	BASE PLATE DETAIL
A.5-9	134' - 0"	11 x 11 x 3/4"	--	W10X54	98' - 4 1/2"	16 x 12 x 3/4"	11/S102
B-6	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
B-7	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
B-8	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
B-9	137' - 5"	1/4" FITTED	--	HSS10X10X1/2	98' - 4 1/2"	33 x 12 x 3/4"	14/S102
B.5-9	137' - 5"	--	--	W10X54	98' - 4 1/2"	16 x 12 x 3/4"	11/S102
C-6	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
C-7	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
C-8	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
C-9	137' - 5"	1/4" FITTED	--	HSS10X10X1/2	98' - 4 1/2"	33 x 12 x 3/4"	14/S102
C.5-9	134' - 0"	11 x 11 x 3/4"	--	W10X54	98' - 4 1/2"	16 x 12 x 3/4"	11/S102
D-6	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
D-7	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
D-8	136' - 2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
D-9	137' - 5"	1/4" FITTED	--	HSS10X10X1/2	98' - 4 1/2"	33 x 12 x 3/4"	14/S102
D.5-9	137' - 5"	--	--	W10X54	98' - 4 1/2"	16 x 12 x 3/4"	11/S102
E-6	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
E-7	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
E-8	137' - 2 1/2"	16 x 11 x 3/4"	17/S301	HSS10X10X1/2	98' - 7 1/2"	16 x 16 x 3/4"	9/S102
E-9	137' - 5"	1/4" FITTED	--	HSS10X10X1/2	98' - 4 1/2"	33 x 12 x 3/4"	14/S102
E.5-9	134' - 0"	11 x 11 x 3/4"	--	W10X54	98' - 4 1/2"	16 x 12 x 3/4"	11/S102
F-1(-6")	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	16 x 12 x 3/4"	22/S102
F-2	137' - 5"	1/4" FITTED	--	HSS8X8X3/8	99' - 1 1/2"	14 x 14 x 3/4"	15/S102
F-3(-6")	137' - 0 3/8"	10 x 9 x 1/2"	1/S301	HSS8X8X3/8	98' - 1 1/2"	14 x 12 x 3/4"	21/S102
G-1(-6")	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	16 x 12 x 3/4"	22/S102
G-2	137' - 5"	1/4" FITTED	--	HSS8X8X3/8	99' - 1 1/2"	14 x 14 x 3/4"	15/S102
G-3(-6")	136' - 11"	1/4" FITTED	--	HSS8X8X3/8	99' - 1 1/2"	14 x 14 x 3/4"	16/S102
G-4	136' - 6 1/2"	1/4" FITTED	--	HSS8X8X3/8	99' - 1 1/2"	16 x 14 x 3/4"	16/S102
G-5	136' - 10 3/4"	1/4" FITTED	--	HSS8X8X3/8	99' - 1 1/2"	16 x 14 x 3/4"	16/S102
G-6	137' - 5"	1/4" FITTED	--	HSS10X10X1/2	98' - 1 1/2"	16 x 16 x 3/4"	2/S102
H(-6")-1(-6")	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	14 x 14 x 3/4"	12/S102
H(-6")-2	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	14 x 14 x 3/4"	12/S102
H(-6")-4	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	16 x 12 x 3/4"	22/S102
H(-6")-5	133' - 0"	1/4" FITTED	--	HSS8X8X3/8	98' - 1 1/2"	16 x 12 x 3/4"	22/S102

BEAM REACTION SCHEDULE

BEAM SIZE	REACTION (kips)	BEAM SIZE	REACTION (kips)
W8	--	C	--
W10	--	--	--
W12	15k	HSS 10	12k
W14	--	HSS 12	18k
W16	--	--	--
W18	--	--	--
W21	--	--	--
W24	22k	--	--
W27	--	--	--

FOOTING SCHEDULE

f'b = 2,500 psf fy = 60,000 psi
f'c = 4,000 psi min.

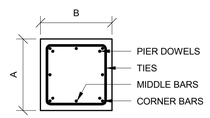
FOOTING MARK	SIZE (L x W)	"t"	BOTTOM BARS (EACH WAY)	TOP BARS (EACH WAY)
F 6.0	6'-0" x 6'-0"	12"	8-#5	--
F 6.5	6'-0" x 6'-0"	24"	8-#6	--
F 7.0	7'-0" x 7'-0"	15"	8-#5	--
F 9.0	9'-0" x 9'-0"	15"	8-#6	--
F 9.5	9'-0" x 9'-0"	18"	8-#6	--
F 9.75	9'-0" x 9'-0"	24"	9-#6	--

CONCRETE PIER SCHEDULE

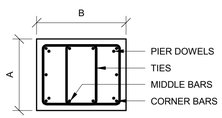
PIER MARK	TYPE	SIZE (A x B)	REINFORCEMENT CORNER	REINFORCEMENT MIDDLE	REINFORCEMENT TIES	REINFORCEMENT DOWELS	REMARKS
P 1	1	16" x 16"	4-#6	4-#5	#3@8"	4-#6	
P 2	2	18" x 16"	4-#5	6-#5	#3@8"	4-#5	

NOTES:

1. SEE FOUNDATION PLANS FOR TOP OF PIER ELEVATIONS
2. SIZE INDICATED REFERS TO PIER SIZE, SEE FOUNDATION PLANS AND DETAILS FOR RECESSED FOUNDATION/ COLUMN POCKET SIZES.
3. FILL ALL POCKETS WITH CONCRETE AFTER THE STEEL FRAME IS ERECTED AND PLUMB.
4. SEE COLUMN SCHEDULE FOR COLUMN BASE PLATE SIZE.



TYPE 1



TYPE 2

BLDD ARCHITECTS
Design Firm Registration #184-000723

date 3-31-16
revised 5-9-16

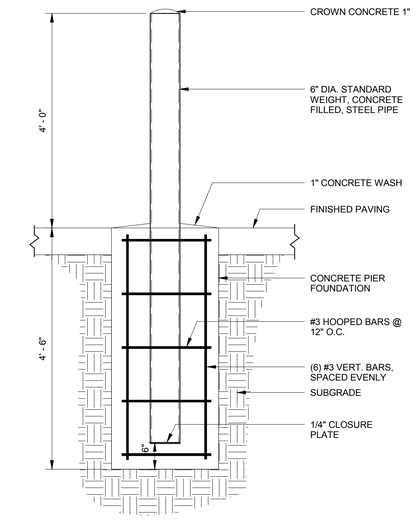
drawn by RDF
checked by

STRUCTURAL GENERAL NOTES
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

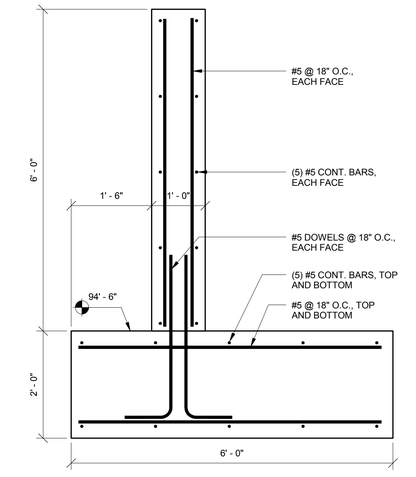
sheet
S100

project 043BX03.400

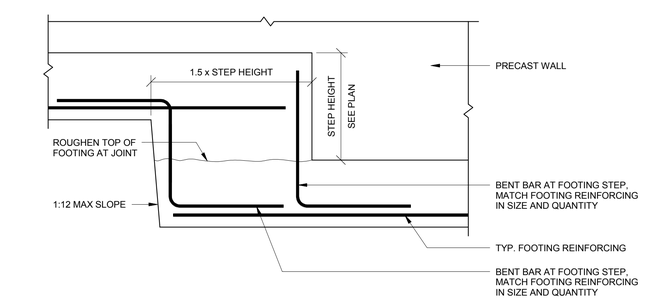
CONSTRUCTION DOCUMENTS



1 BOLLARD DETAIL
3/4" = 1'-0"



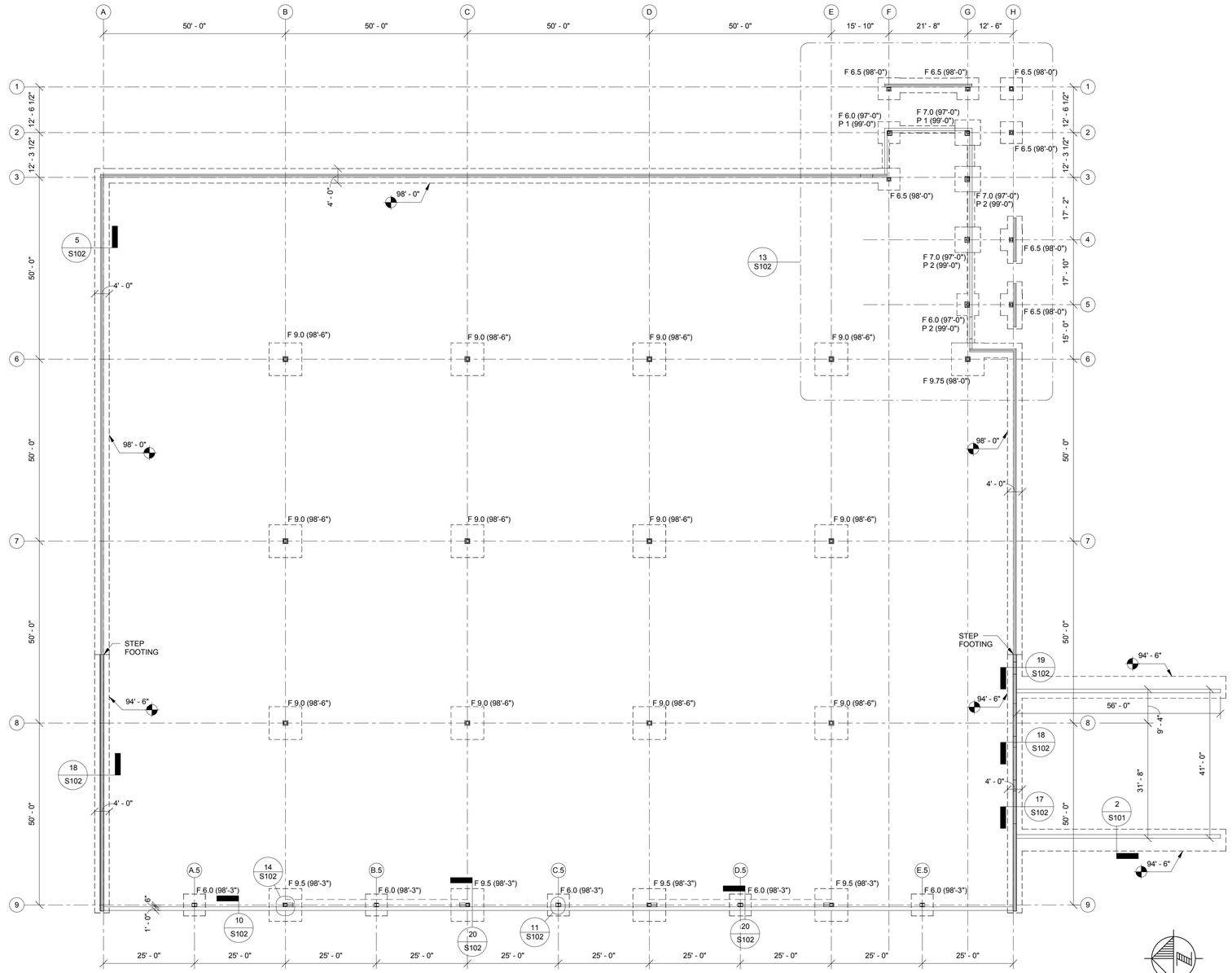
2 FOUNDATION DETAIL
3/4" = 1'-0"



3 FOUNDATION DETAIL
3/4" = 1'-0"

FOUNDATION PLAN GENERAL NOTES

1. SEE ARCHITECTURAL PLANS FOR LOCATION AND QUANTITY OF BOLLARDS. BOLLARD DETAIL, 1/S101.
2. T/ FOUNDATION WALL ELEV. = 100'-0", U.N.O.
3. T/ EXTERIOR FOOTING ELEV. = 97'-0", U.N.O.
4. T/ INTERIOR FOOTING ELEV. = 98'-6", U.N.O.
5. PROVIDE CORNER BARS, MATCHING SIZE, QUANTITY AND SPACING OF TYPICAL HORIZONTAL REINFORCING BARS AT ALL FOUNDATION CORNERS.
6. DO NOT CORE THROUGH PRECAST WALL PANELS WITHOUT WRITTEN CONSENT OF ARCHITECT.
7. DO NOT CORE DRILL THROUGH COLUMN PIERS.
8. SEE DETAIL 3/S101FOR STEPPED FOOTING REINFORCING DETAILS.
9. SEE SHEET S100 FOR PIER AND FOOTING SCHEDULES.
10. EXTERIOR SLAB ON GRADE AT ENTRY TO BE 4" THICK CONCRETE SLAB REINFORCED w/ 6x6 - W1.4 x W1.4. OVER MIN. 6" THICK COMPACTED BASE



4 FOUNDATION PLAN
1/16" = 1'-0"

BLDD ARCHITECTS
Design Firm Registration #184-000723

date 3-31-16
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drawn by RDF
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FOUNDATION PLAN
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
S101

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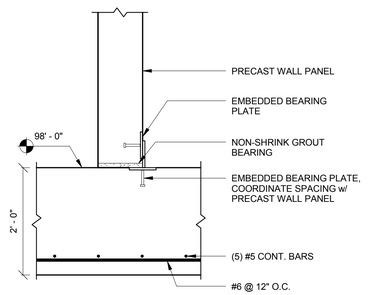
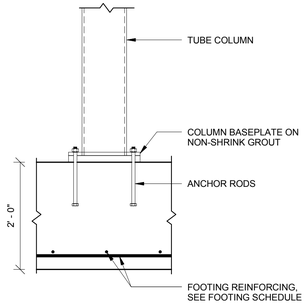
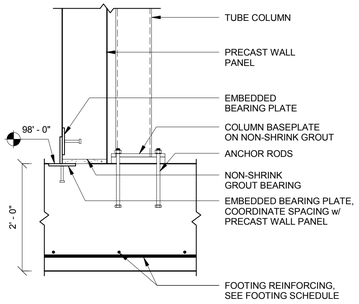
CONSTRUCTION DOCUMENTS



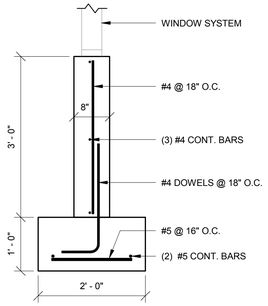
1 FOUNDATION DETAIL
3/4" = 1'-0"



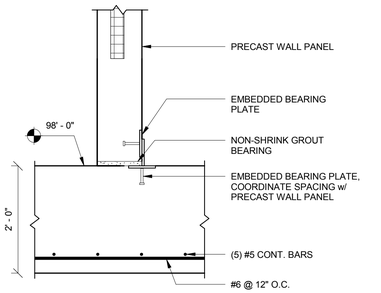
2 FOUNDATION DETAIL
3/4" = 1'-0"



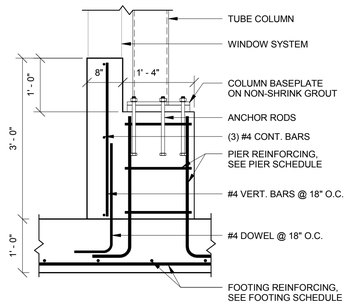
3 FOUNDATION DETAIL
3/4" = 1'-0"



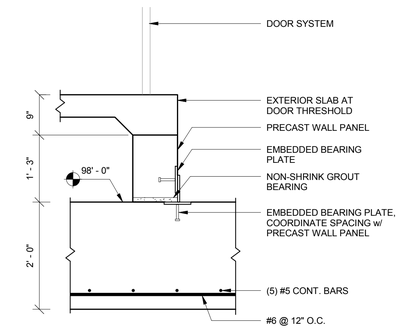
4 FOUNDATION DETAIL
3/4" = 1'-0"



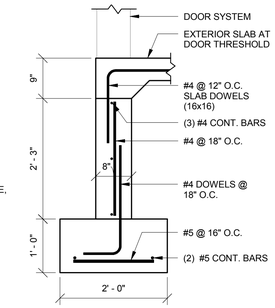
5 FOUNDATION DETAIL
3/4" = 1'-0"



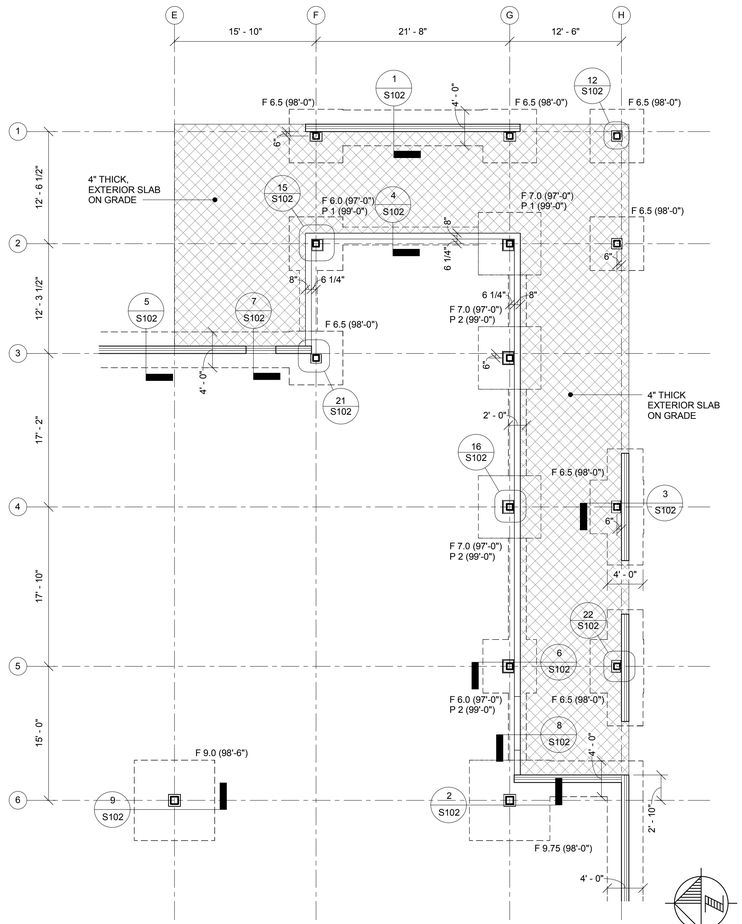
6 FOUNDATION DETAIL
3/4" = 1'-0"



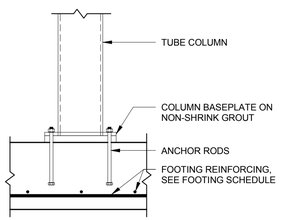
7 FOUNDATION DETAIL
3/4" = 1'-0"



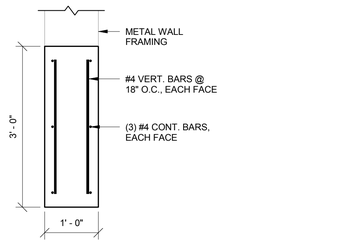
8 FOUNDATION DETAIL
3/4" = 1'-0"



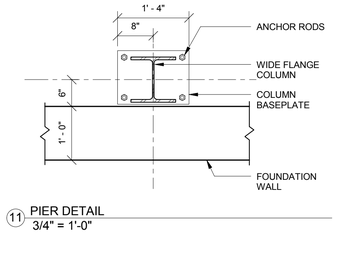
13 ENLARGED FOUNDATION PLAN
1/8" = 1'-0"



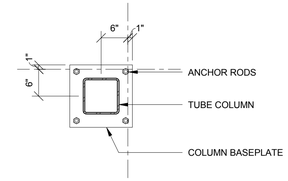
9 FOUNDATION DETAIL
3/4" = 1'-0"



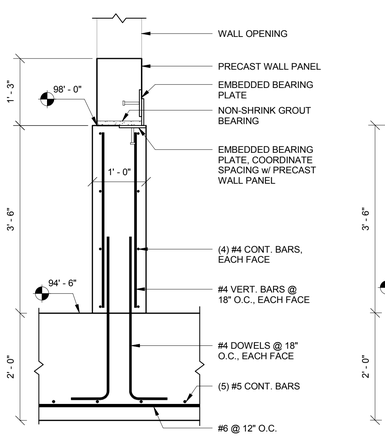
10 FOUNDATION DETAIL
3/4" = 1'-0"



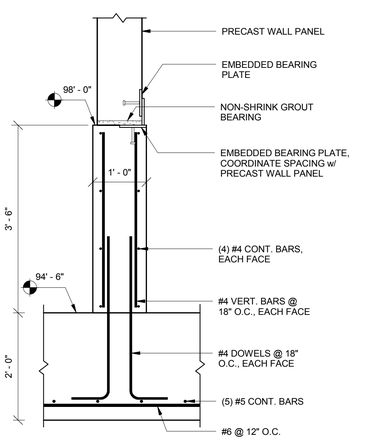
11 PIER DETAIL
3/4" = 1'-0"



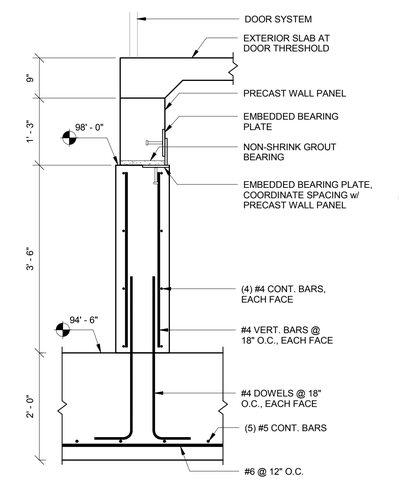
12 PIER DETAIL
3/4" = 1'-0"



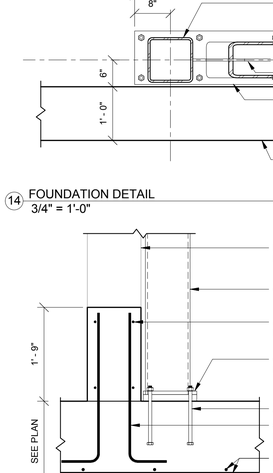
17 FOUNDATION DETAIL
3/4" = 1'-0"



18 FOUNDATION DETAIL
3/4" = 1'-0"

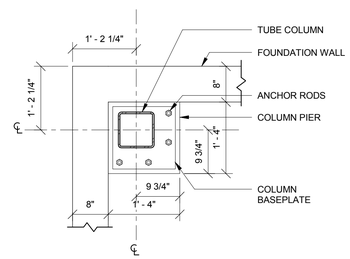


19 FOUNDATION DETAIL
3/4" = 1'-0"

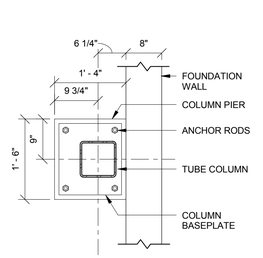


14 FOUNDATION DETAIL
3/4" = 1'-0"

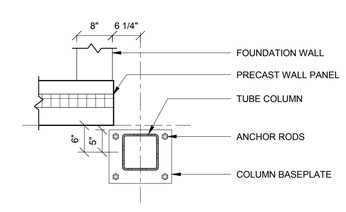
20 FOUNDATION DETAIL
3/4" = 1'-0"



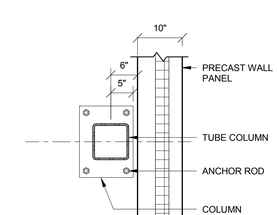
15 PIER DETAIL
3/4" = 1'-0"



16 PIER DETAIL
3/4" = 1'-0"



21 PIER DETAIL
3/4" = 1'-0"



22 PIER DETAIL
3/4" = 1'-0"

BLDD ARCHITECTS
Design Firm Registration #184-000723

date 3-31-16
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drawn by RDF
checked by

FOUNDATION DETAILS
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

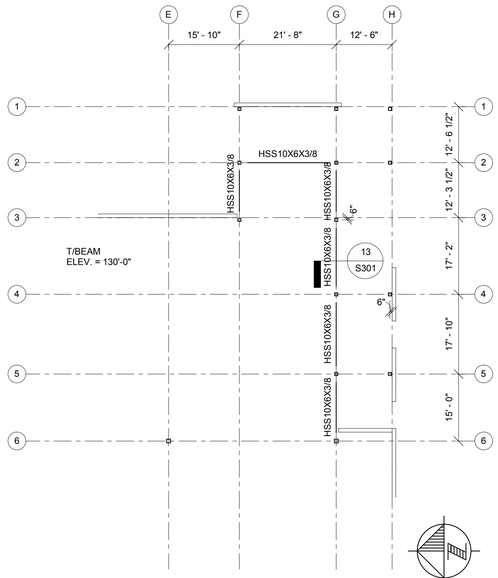
sheet
S102

project 043BX03.400

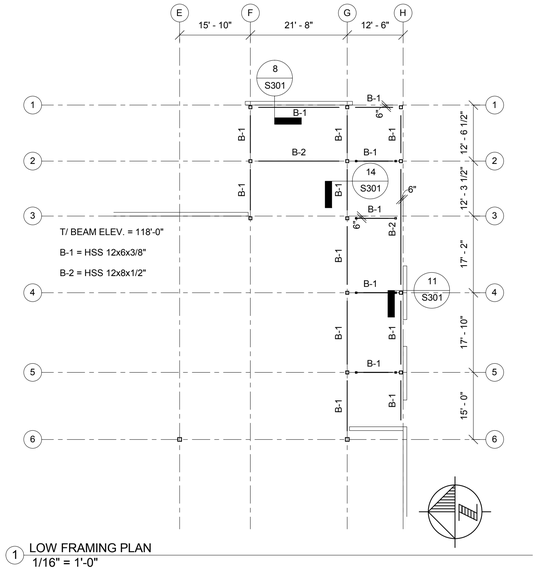
CONSTRUCTION DOCUMENTS

FRAMING PLAN GENERAL NOTES

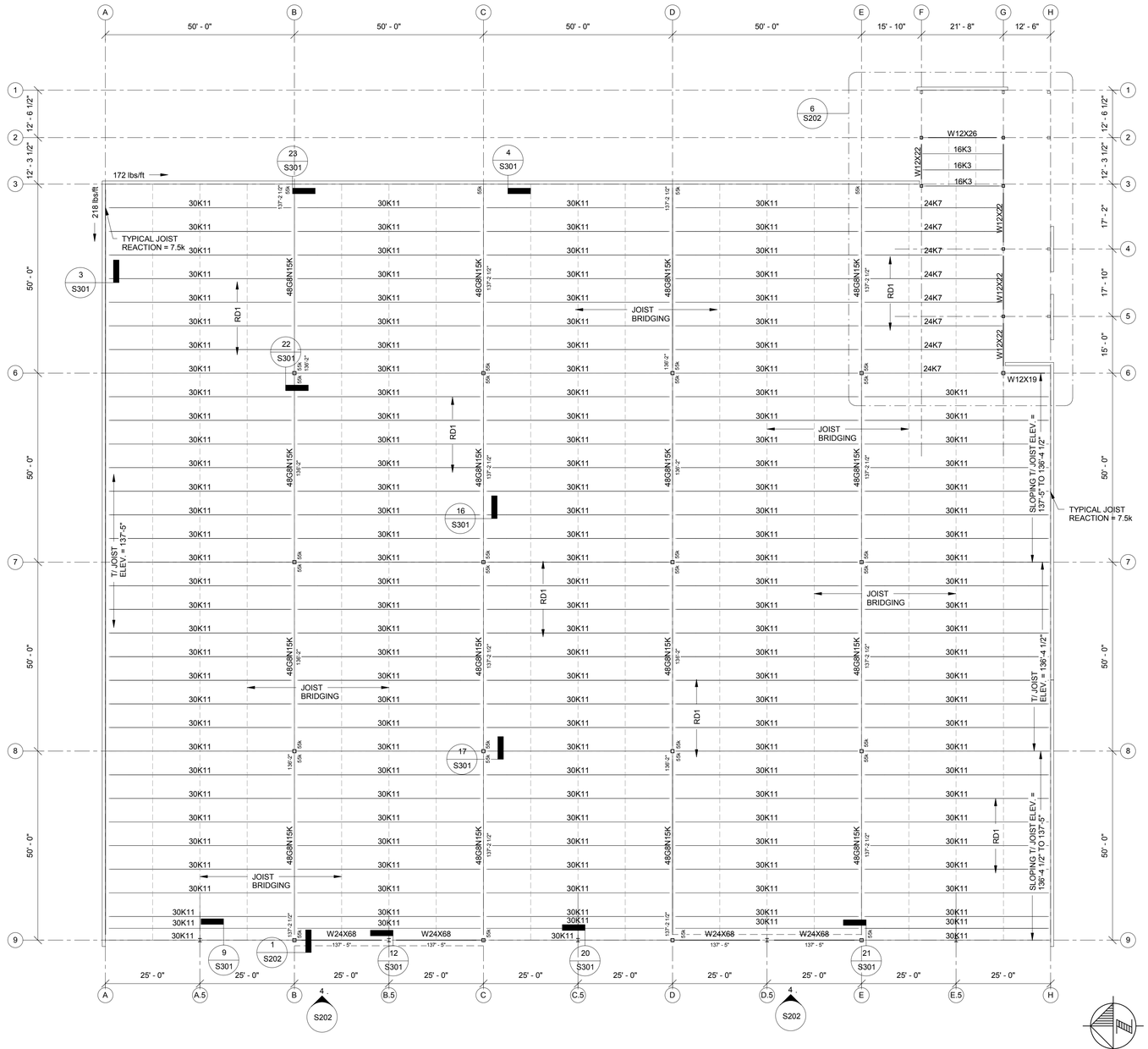
1. RD1 INDICATES SPAN DIRECTION OF 1 1/2" METAL ROOF DECK, 0.0358" MINIMUM MATERIAL THICKNESS.
2. PROVIDE WELDS AT EACH FACE OF TUBE TO TUBE CONNECTIONS.
3. PROVIDE FRAMING DETAIL, 24/S301, AT ALL ROOF PENETRATIONS.
4. SPACE JOISTS EVENLY WITHIN BAYS, ALONG BEAMS OR AS INDICATED ON FRAMING PLANS.
5. DO NOT CUT OR REMOVE ANY JOIST BRIDGING.
6. JOIST MANUFACTURER TO DESIGN AND PROVIDE ALL REQUIRED ERECTION AND PERMANENT JOIST BRIDGING. QUANTITY AND LOCATIONS SHOWN ARE FOR REFERENCE PURPOSES ONLY.
7. DO NOT HANG ANY EQUIPMENT FROM JOIST BRIDGING, INCLUDING MECHANICAL, ELECTRICAL, PLUMBING OR FIRE PROTECTION EQUIPMENT.
8. ELEVATIONS INDICATED ON FRAMING PLANS ARE TOP OF JOIST/ JOIST GIRDER AND TOP OF BEAM ELEVATIONS.



3 INTERMEDIATE FRAMING PLAN
1/16" = 1'-0"



1 LOW FRAMING PLAN
1/16" = 1'-0"



2 ROOF FRAMING PLAN
1/16" = 1'-0"

ELDD ARCHITECTS

Design Firm Registration #184-000723

date 3-31-16
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drawn by RDF
checked by

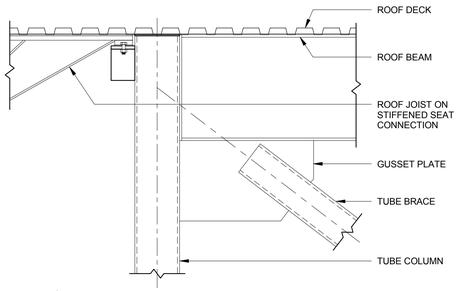
FRAMING PLAN

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

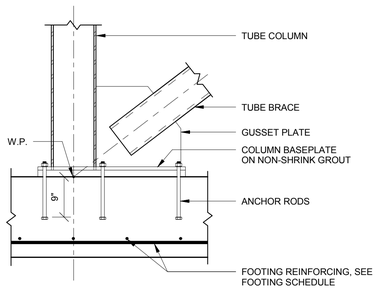
sheet
S201

project 043BX03.400

CONSTRUCTION DOCUMENTS



1 FRAMING DETAIL
3/4" = 1'-0"



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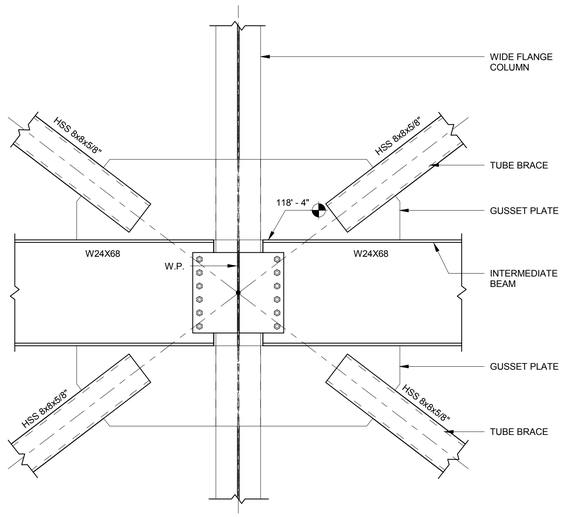
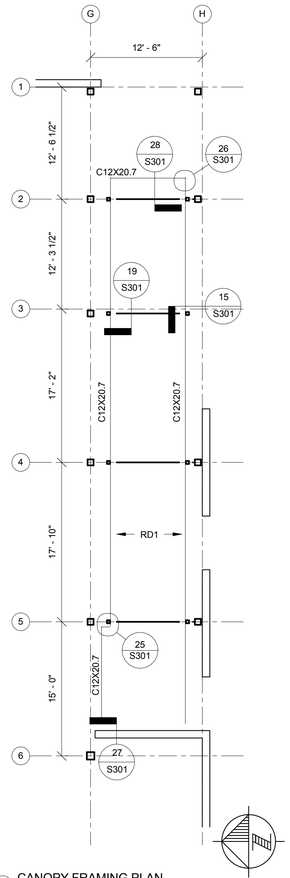
3/4" = 1'-0"

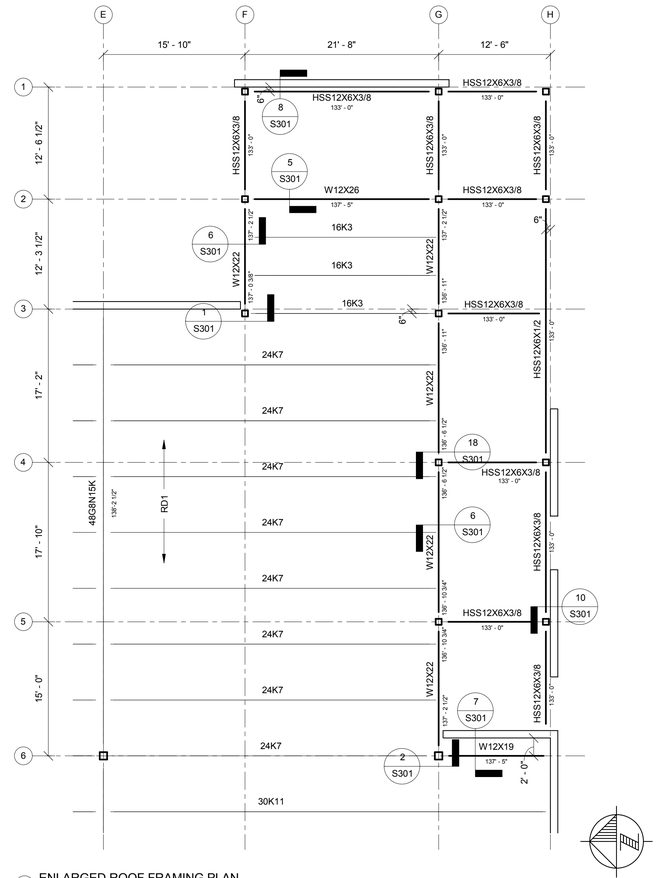


3 FRAMING DETAIL
3/4" = 1'-0"

4 FRAMING ELEVATION
1/4" = 1'-0"



5 CANOPY FRAMING PLAN
1/8" = 1'-0"



6 ENLARGED ROOF FRAMING PLAN
1/8" = 1'-0"

BLDD ARCHITECTS
Design Firm Registration #184-000723

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revised

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ENLARGED PLANS AND ELEVATIONS

VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

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S202

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CONSTRUCTION DOCUMENTS

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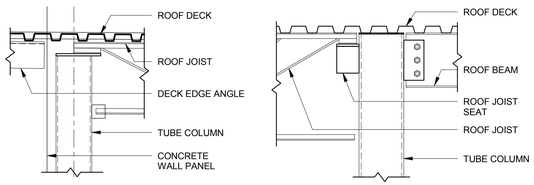
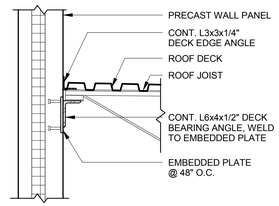
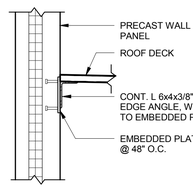


1 FRAMING DETAIL
3/4" = 1'-0"

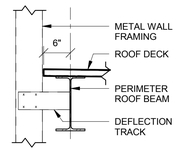
2 FRAMING DETAIL
3/4" = 1'-0"



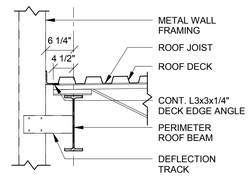
3 FRAMING DETAIL
3/4" = 1'-0"



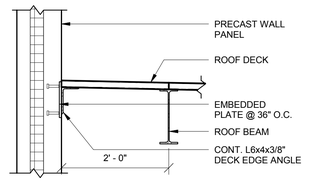
4 FRAMING DETAIL
3/4" = 1'-0"



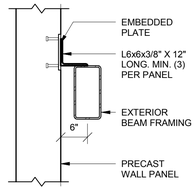
5 FRAMING DETAIL
3/4" = 1'-0"



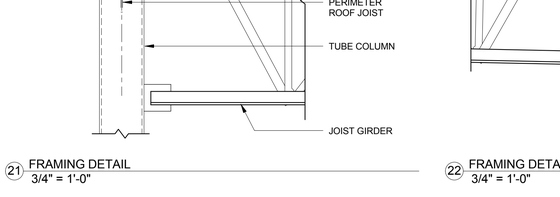
6 FRAMING DETAIL
3/4" = 1'-0"



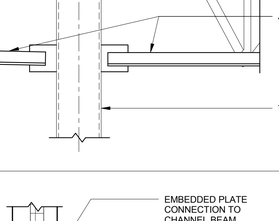
7 FRAMING DETAIL
3/4" = 1'-0"



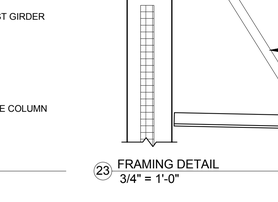
8 FRAMING DETAIL
3/4" = 1'-0"



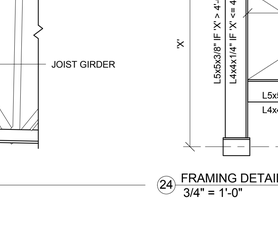
9 FRAMING DETAIL
3/4" = 1'-0"



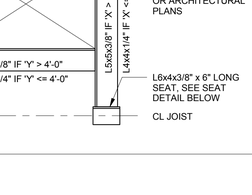
10 FRAMING DETAIL
3/4" = 1'-0"



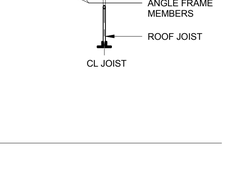
11 FRAMING DETAIL
3/4" = 1'-0"



12 FRAMING DETAIL
3/4" = 1'-0"



13 FRAMING DETAIL
3/4" = 1'-0"



14 FRAMING DETAIL
3/4" = 1'-0"

15 FRAMING DETAIL
3/4" = 1'-0"

16 FRAMING DETAIL
3/4" = 1'-0"

17 FRAMING DETAIL
3/4" = 1'-0"

18 FRAMING DETAIL
3/4" = 1'-0"

19 FRAMING DETAIL
3/4" = 1'-0"

20 FRAMING DETAIL
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21 FRAMING DETAIL
3/4" = 1'-0"

22 FRAMING DETAIL
3/4" = 1'-0"

23 FRAMING DETAIL
3/4" = 1'-0"

24 FRAMING DETAIL
3/4" = 1'-0"

25 FRAMING DETAIL
3/4" = 1'-0"

26 FRAMING DETAIL
3/4" = 1'-0"

27 FRAMING DETAIL
3/4" = 1'-0"

28 FRAMING DETAIL
3/4" = 1'-0"

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Design Firm Registration #184-000723

date 3-31-16
revised

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FRAMING DETAILS
VERMILLION RISE MEGA PARK
C.H. GARMONG & SONS, INC.
VERMILLION COUNTY, IN

sheet
S301

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CONSTRUCTION DOCUMENTS

LIGHTING SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
A 4'-0"	2'x2' FLUORESCENT FIXTURE, SEE PLANS (A=FIXTURE TYPE, 4=CIRCUIT NUMBER, a=SWITCH CONTROL)	2G	CEILING
A 4'-0"	2'x4' FLUORESCENT FIXTURE, SEE PLANS (A=FIXTURE TYPE, 4=CIRCUIT NUMBER, a=SWITCH CONTROL)	2G	CEILING
A 4a	DIAGONAL LINE INDICATES THAT FIXTURE SHALL BE PROVIDED WITH TWO (2) BALLASTS TO ALLOW DUEL LEVEL SWITCHING. BALLAST (1) SHALL BE CONNECTED TO INSIDE LAMPS (a) AND BALLAST (2) SHALL BE CONNECTED TO OUTSIDE LAMPS (b) THUS PROVIDING SEPARATE SWITCH CONTROL.	2G	CEILING
4NL	4=CIRCUIT NUMBER, NL=NIGHT LIGHT CIRCUIT, NON-SWITCHED CIRCUIT, UNO	2G	CEILING
	INDICATES TWO (2) BALLASTS CONNECTED TO SEPARATE NORMAL POWER SWITCH CIRCUITS	2G	CEILING
	HATCH PATTERN INDICATES FIXTURE SHALL BE CONNECTED TO CRITICAL BRANCH CIRCUIT	2G	CEILING
	INDICATES TWO (2) BALLASTS CONNECTED TO SEPARATE CRITICAL BRANCH SWITCH CIRCUITS	2G	CEILING
	INDICATES TWO (2) BALLASTS CONNECTED TO NORMAL AND CRITICAL BRANCH SWITCH CIRCUITS	2G	CEILING
	HATCH PATTERN INDICATES FIXTURE SHALL BE CONNECTED TO LIFE SAFETY BRANCH CIRCUIT	2G	CEILING
	LIFE-SAFETY EMERGENCY SPLIT FIXTURE INSIDE LAMP(S) AND OUTSIDE LAMPS SWITCH SEPARATE	2G	CEILING
	INDICATES TWO (2) BALLASTS CONNECTED TO NORMAL AND LIFE SAFETY BRANCH SWITCH CIRCUITS	2G	CEILING
1'-4"	1'x4' FLUORESCENT FIXTURE, SEE PLANS	2G	CEILING
	4' STRIP FLUORESCENT FIXTURE	2G	CEILING
	PENDANT MOUNTED FIXTURE, SEE PLANS FOR SIZE AND TYPE OF MOUNTING	2G	CEILING
	TRACK LIGHTING	2G	CEILING
or or	WALL MOUNT FIXTURE, FLUORESCENT OR INCANDESCENT, SEE PLANS	2G	–
or	INCANDESCENT FIXTURE, SEE PLANS	2G	CEILING
or	CEILING OR WALL MOUNTED EXIT SIGN, ARROWS INDICATE DIRECTION	2G	–
or	EMERGENCY BATTERY PACK, SEE PLANS	2G	–
or	EMERGENCY BATTERY PACK W/HEADS, SEE PLANS	2G	7'-6" AFF, UNO
	REMOTE HEADS, BATTERY OPERATED	2G	7'-6" AFF, UNO
	SINGLE POLE LIGHT SWITCH	1G	48" AFF, UNO
3or4	3-WAY OR 4-WAY SWITCHES	1G	48" AFF, UNO
	DIMMER SWITCH, SIZE PER PLANS	1G	48" AFF, UNO
a	LOWER CASE LETTER INDICATES WHICH LIGHT FIXTURE(S) ARE CONTROLLED BY SAME, UNO.	1G	48" AFF, UNO
K	SINGLE POLE SWITCH, K=KEY OPERATED, P=PILOT LIGHT	1G	48" AFF, UNO
**** WSD ??	OCCUPANCY DETECTOR SWITCH, SIZE PER PLANS DEVICE TAGS, WP=WEATHERPROOF, 2P=TWO POLE, WP/3=WEATHERPROOF/347 VOLT	1G	48" AFF, UNO
***** M ??	CEILING MOUNTED OCCUPANCY DETECTOR SWITCH, LINE-VOLTAGE, UNO, SIZE PER PLANS DEVICE TAGS, WP=WEATHERPROOF, 2P=TWO POLE, WP/3=WEATHERPROOF/347 VOLT	1G	CEILING
***** LV ??	CEILING MOUNTED OCCUPANCY DETECTOR SWITCH, LOW-VOLTAGE, 24 VOLT, UNO, SIZE PER PLANS DEVICE TAGS, WP=WEATHERPROOF, 2P=TWO POLE, WP/3=WEATHERPROOF/347 VOLT	1G	CEILING
NL	NIGHT LIGHT SWITCH	1G	48" AFF, UNO
LCC	LIGHTING CONTROL CABINET – REFER TO TIMER/OFF/PHOTOCELL LIGHTING CONTROL DETAIL	N/A	–

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

**** SENSORSWITCH WSD-W SERIES INFRARED WALLBOX OCCUPANCY SENSOR, WP=WSD-W-LT, 2P=WSD-2P-W, WP/3=WSD-2P-W-LT AND COOPER/HUBBELL EQUIVALENT. (VERIFY COLOR TO MATCH OTHER DEVICES IN SAME AREA)

***** SENSORSWITCH CM-10-W SERIES INFRARED WALLBOX OCCUPANCY SENSOR, WP=CM-10-W-LT, 2P=CM-10-2P-W, WP/3=CM-10-2P-W-LT AND COOPER/HUBBELL/NEXLIGHT EQUIVALENT. PROVIDE 120/24V TRANSFORMERS AND ALL CONNECTIONS WHERE REQUIRED.

BACKBOX LEGEND

SYMBOL	ITEMS
	4-11/16" SQUARE X 2-1/8"D TWO-GANG BACKBOX (STEEL CITY #72171) WITH SINGLE-GANG 3/4" RAISED EXTENSION RING. (STEEL CITY #72-C-14)
2G	4-11/16" SQUARE X 2-1/8"D TWO-GANG BACKBOX (STEEL CITY #72171) WITH TWO-GANG 3/4" RAISED EXTENSION RING. (STEEL CITY #72-C-18)
2G-A	6-13/16" X 4-1/2"H X 2-1/2"D TWO-GANG BACKBOX (STEEL CITY #42BD) WITH TWO-GANG 3/4" RAISED EXTENSION RING AS REQUIRED.
3G	8-5/8" X 4-1/2"H X 2-1/2"D THREE-GANG BACKBOX (STEEL CITY #4380) WITH THREE-GANG 3/4" RAISED EXTENSION RING AS REQUIRED.
4G	10-17/18" X 4-1/2"H X 2-1/2"D FOUR-GANG BACKBOX (STEEL CITY #4480) WITH FOUR-GANG 3/4" RAISED EXTENSION RING AS REQUIRED.
	BACKBOX EXTENSION RING AND COVERPLATE PROVIDED BY VENDOR AND INSTALLED BY CONTRACTOR.
N/A	NOT APPLICABLE

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

V

ELECTRICAL SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
	SPEED CONTROL SWITCH	1G	48" AFF, UNO
*	PUSH PAD CONTROL SWITCH, COORDINATE WITH OWNERS CONSULTANT.	1G	48" AFF, UNO
	PUSH BUTTON	1G	48" AFF, UNO
J or J	JUNCTION BOX, CEILING, WALL	2G	18" AFF, UNO

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

* FROM INDICATED DEVICE, STUB UP 36" CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AND TO WITHIN 24" OF CABLE MANAGEMENT SYSTEM. U.N.O.

FIRE ALARM SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
	FIRE ALARM, CONTROL PANEL	N/A	–
	FIRE ALARM, PULL STATION	1G	48" AFF, UNO
	FIRE ALARM, AUDIO/VISUAL	2G	80" AFF, UNO
	FIRE ALARM, VISUAL	2G	80" AFF, UNO
S	SMOKE DETECTOR	2G	CEILING
H	HEAT DETECTOR	2G	CEILING
	MAGNETIC DOOR HOLDER	2G	–
SD	DUCT SMOKE DETECTOR	2G	–
D	SMOKE DAMPER AND DUCT SMOKE DETECTOR	2G	–
DA	DUCT ALARM INDICATOR FOR DUCT SMOKE DETECTOR	2G	–
FS	IAM DEVICE FOR A SPRINKLER FLOW SWITCH	2G	–
TS	IAM DEVICE FOR A SPRINKLER TAMPER SWITCH	2G	–
IAM	IAM DEVICE	2G	–
ELR	FIRE ALARM, END-of-LINE RESISTER	2G	–

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

POWER SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
	120V. DUPLEX RECEPTACLE	1G	18" AFF, UNO
	120V. DUPLEX RECEPTACLE	1G	8" ABOVE COUNTER, UNO
	120V. QUADRAPLEX RECEPTACLE	2G	18" AFF, UNO
	120V. QUADRAPLEX RECEPTACLE	2G	8" ABOVE COUNTER, UNO
	EMERGENCY RECEPTACLE, CIRCUITED TO EMERGENCY POWER, UNO	1G	18" AFF, UNO
	120V. SINGLE RECEPTACLE, 18" AFF, UNO	1G	CEILING
??	DEVICE TAGS, GF=GROUND FAULT INTERRUPTING, WP=WEATHERPROOF, LOCK=LOCKABLE, IG=ISOLATED GROUND, SP=SURGE PROTECTED, CP=CHILD PROOF (TAMPER RESISTANT)	1G	+48"=48" AFF
	RECEPTACLE, UPPER HALF OF OUTLET SWITCHED OR WIRED SPEARATELY FROM BOTTOM HALF	1G	18" AFF, UNO
	RECEPTACLE, FLOOR MOUNTED, UNO (SIMILAR FOR OTHER DEVICES)	1G	18" AFF, UNO
	RECEPTACLE, CEILING MOUNTED, UNO (SIMILAR FOR OTHER DEVICES)	1G	18" AFF, UNO
	GROUND JACK, SINGLE	1G	18" AFF, UNO
	3P/3W/1# OUTLET WITH GROUND, AMPERAGE AND VOLTAGE PER PLANS	1G	18" AFF, UNO
	3P/3W/1# OUTLET WITH NEUTRAL, AMPERAGE AND VOLTAGE PER PLANS	1G	18" AFF, UNO
	3P/3W/3# OUTLET WITHOUT NEUTRAL, AMPERAGE AND VOLTAGE PER PLANS	1G	18" AFF, UNO
	3P/4W/3# OUTLET WITH NEUTRAL, AMPERAGE AND VOLTAGE PER PLANS	1G	18" AFF, UNO

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

ELECTRICAL SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
	MOTOR LOCATION, SIZED AS INDICATED	–	–
M	MANUAL MOTOR STARTER, P = PILOT LIGHT	–	54" AFF, UNO
	MAGNETIC MOTOR STARTER	–	54" AFF, UNO
	DISCONNECT SWITCH, SIZED AS INDICATED	–	54" AFF, UNO
	COMBINATION STARTER, HEAT ELEMENTS/FUSING PER MOTOR RATING	–	54" AFF, UNO.
T	TRANSFORMER, SIZED PER PLANS	–	–
C	CONTACTOR, REFER TO PLANS	–	–
TM	TIMER, REFER TO PLANS	–	60" AFF, UNO

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

CONDUIT SYMBOLS LEGEND

SYMBOL	ITEMS	SIZE
	CONDUIT CONCEALED IN CEILING OR WALL, WIRING PER CIRCUIT REQUIREMENTS	3/4", UNO
	CONDUIT CONCEALED IN FLOOR OR SLAB, WIRING PER CIRCUIT REQUIREMENTS	3/4", UNO
	CONDUIT EXPOSED, WIRING PER CIRCUIT REQUIREMENTS	3/4", UNO
A/1,3,5	CONDUIT RUN TO PANEL WITH CIRCUIT NUMBER(S) INDICATED, WIRING PER CIRCUIT REQUIREMENTS	N/A
	FLEXIBLE CONDUIT WITH WIRING AS REQUIRED, UNO, WIRING PER CIRCUIT REQUIREMENTS	N/A
	CONDUIT UP	N/A
	CONDUIT DOWN	N/A
PA	PUBLIC ADDRESS CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
FA	FIRE ALARM CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
TV	TELEVISION CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
E	EMERGENCY CONDUIT SYSTEM, WIRING PER CIRCUIT REQUIREMENTS	3/4", UNO
T	TELEPHONE CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
C	COMPUTER CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
LV	LOW VOLTAGE CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
NC	NURSE CALL CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
CL	CLOCK CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO
M	MONITOR CONDUIT SYSTEM, CABLING PER VENDOR'S REQUIREMENTS	3/4", UNO

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

TELE./DATA SYMBOLS LEGEND

SYMBOL	ITEMS	BACKBOX	MOUNTING HEIGHT
W **	WALL TELEPHONE, VOICE OUTLET	1G	48"AFF, UNO
1 **	TELEPHONE, VOICE OUTLET, NUMBER=NUMBER OF DROPS, BLANK=1 DROP	1G	18" AFF, UNO
2 **	TELEPHONE, VOICE OUTLET, NUMBER=NUMBER OF DROPS, BLANK=1 DROP	1G	8" AC, UNO
2 **	COMPUTER, DATA OUTLET, NUMBER=NUMBER OF DROPS, BLANK=1 DROP	1G	18" AFF, UNO
2 **	COMPUTER, DATA OUTLET, NUMBER=NUMBER OF DROPS, BLANK=1 DROP	1G	8" A, UNO
2/1 **	TELEPHONE/COMPUTER, VOICE/DATA OUTLET, NO. OF TELEPHONE/ NO. OF DATA	2G	18" AFF, UNO
2/1 **	TELEPHONE/COMPUTER, VOICE/DATA OUTLET, NO. OF TELEPHONE/ NO. OF DATA	2G	8" AC, UNO
V **	TELEVISION OUTLET	1G	18" AFF, UNO
**	DICTATION STATION	1G	18" AFF, UNO
**	COMMUNICATIONS DEVICE IN CEILING, UNO	1G	CEILING
**	COMMUNICATIONS DEVICE IN FLOOR, UNO	1G	CEILING
TELE	TELECOMMUNICATIONS SYSTEMS BACKBOARD – PROVIDE 4'-0"H x 3/4"D FIRE RETARDENT PLYWOOD BACKBOARD WITH A 6 AWG GROUND CONNECTED TO BUILDING MAIN SERVICE ENTRANCE GROUNDING POINT. (COIL UP 6'-0" OF CONDUCTOR AT COMMUNICATIONS BOARD FOR VENDORS USE). LENGTH OF BOARD SHALL BE AS INDICATED ON DRAWINGS. PROVIDE A TVSS/SPD QUADRAPLEX RECEPTACLE MOUNTED ON BOARD. FIELD VERIFY PREFERRED MOUNTING LOCATION WITH OWNERS TELECOMMUNICATIONS SYSTEMS VENDOR PRIOR TO INSTALLATION.	N/A	–

ALL SYMBOLS INDICATED ON LEGEND MAY NOT BE UTILIZED ON DRAWINGS

** FROM INDICATED DEVICE, STUB UP 1" CONDUIT ABOVE NEAREST ACCESSIBLE CEILING AND TO WITHIN 24" OF CABLE MANAGEMENT SYSTEM. U.N.O.

GENERAL PROJECT NOTES:

1. CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN CHAPTER 16 OF 2000 INTERNATIONAL BUILDING CODE, THIRD PRINTING, ADOPTED AS INDIANA BUILDING CODE, 2003 EDITION WITH INDIANA AMENDMENTS.

2. ALL DIMENSIONS ARE TO CENTER LINE OF DEVICE UNLESS NOTED OTHERWISE.

3. FIELD VERIFY EXACT LOCATION OF ALL ELECTRICAL DISTRIBUTION EQUIPMENT PRIOR TO INSTALLATION OF CONDUIT.

4. OUTLET BOXES SHALL NOT BE INSTALLED BACK TO BACK IN WALLS. WHERE OUTLETS ARE LOCATED APPROXIMATELY BACK-TO-BACK ON OPPOSITE SIDES OF ADJACENT WALLS, OUTLETS SHALL BE SEPARATED BY A MINIMUM OF ONE STUD UNLESS OTHERWISE APPROVED.

5. PROVIDE A #12 AWG (MINIMUM) GREEN EQUIPMENT GROUND IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS, UNO. GROUND CONDUCTORS SHALL BE SIZED PER NEC (NFPA-70).

6. PROVIDE U.L. LISTED FIRE STOP ASSEMBLY IN ALL PENETRATIONS THROUGH FIRE WALLS/CEILINGS AND SMOKE WALLS/CEILINGS. WHERE FIRE RATED CEILING ASSEMBLIES ARE INDICATED, PROVIDE RATED AND APPROVED GYPSUM BOARD ENCLOSURES TO MAINTAIN CEILING RATINGS.

7. COORDINATE ALL FIRE ALARM WORK WITH FIRE ALARM SYSTEM AND SPRINKLER VENDOR REPRESENTATIVES BEFORE SUBMITTING BIDS AND PROVIDE A COMPLETE AND FULLY CONDUITED SYSTEM. PAINT ALL JUNCTION BOX COVERS RED AND PROVIDE ALL FIRE ALARM WIRING IN RED CONDUIT MANUFACTURED BY ALLIED TUBE AND CONDUIT.

8. COORDINATE EXACT DEVICE LOCATIONS WITH ARCHITECTURAL CASEWORK ELEVATIONS.

9. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.

10. PROVIDE END BUSHINGS ON ALL CONDUIT STUB-OUTS.

11. PROVIDE ACCESS PANELS PER NEC (NFPA-70).

12. PANELBOARD TUBS AND OTHER FLUSH MOUNTED EQUIPMENT ARE NOT TO BE RECESSED IN FIRE-RATED WALLS.

13. ISOLATE VIBRATING, OSCILLATING, NOISE AND MOTION PRODUCING EQUIPMENT FROM SURROUNDING SYSTEMS.

14. SUPPORT EQUIPMENT, DEVICES AND FIXTURES FROM THE BUILDING STRUCTURE.

15. EXIT SIGNS, EMERGENCY BATTERY PACKS AND INVERTORS SHALL BE CONNECTED TO AN UNSWITCHED PHASE CONDUCTOR. INVERTORS INSTALLED IN LIGHT FIXTURES SHALL BE CONNECTED TO THE SAME CIRCUIT SUPPLYING POWER TO THE FIXTURE BUT SHALL NOT BE SWITCHED.

16. LOCATE LIGHT FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING WHILE MAXIMIZING AVAILABLE LIGHT. SPACE LIGHT FIXTURES AROUND EQUIPMENT TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF THE ROOM.

17. ALL RACEWAY RUNS AND ASSOCIATED PULL BOXES SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED.

18. MARK CIRCUIT DESIGNATIONS ON JUNCTION BOX COVERPLATES USING BLACK INDELIBLE MARKER OR PAINT.

19. DO NOT SCALE DRAWINGS.

20. ALL CONDUITS SHALL CONTAIN THREE (3) BRANCH CIRCUITS MAXIMUM. ADDITIONAL BRANCH CIRCUITS MAY BE ADDED TO CONDUITS PROVIDED THAT ONE NEUTRAL CONDUCTOR IS ADDED FOR EVERY THREE (3) ADDITIONAL PHASE CONDUCTORS, PROVIDE A DEDICATED NEUTRAL FOR ALL QUADRAPLEX RECEPTACLES. IN ADDITION, ALL PHASE CONDUCTORS MUST BE DERATED PER N.E.C. SECTION 310 UNDER "NOTES TO AMPACITY TABLES" #6 (a), AND CONDUIT MUST BE UPSIZED PER N.E.C. APPENDIX #C – TABLE #C1 IF REQUIRED.

21. NORMAL AND ESSENTIAL BRANCH-CIRCUIT PANELBOARDS SERVING THE SAME INDIVIDUAL PATIENT VICINITY SHALL HAVE THEIR EQUIPMENT GROUNDING TERMINAL BUSES BONDED TOGETHER WITH AN INSULATED CONTINUOUS COPPER CONDUCTOR NOT SMALLER THAN 10 AWG IN ACCORDANCE WITH ARTICLE 517.14 OF THE NEC (NFPA-70).

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CONSULTANTS

THOMAS T. DINKEL REGISTERED No. 17202 STATE OF INDIANA PROFESSIONAL ENGINEER

OWNER

MARK	DATE	DESCRIPTION
	5/2/16	FOR REVIEW

PROJECT NO:	----
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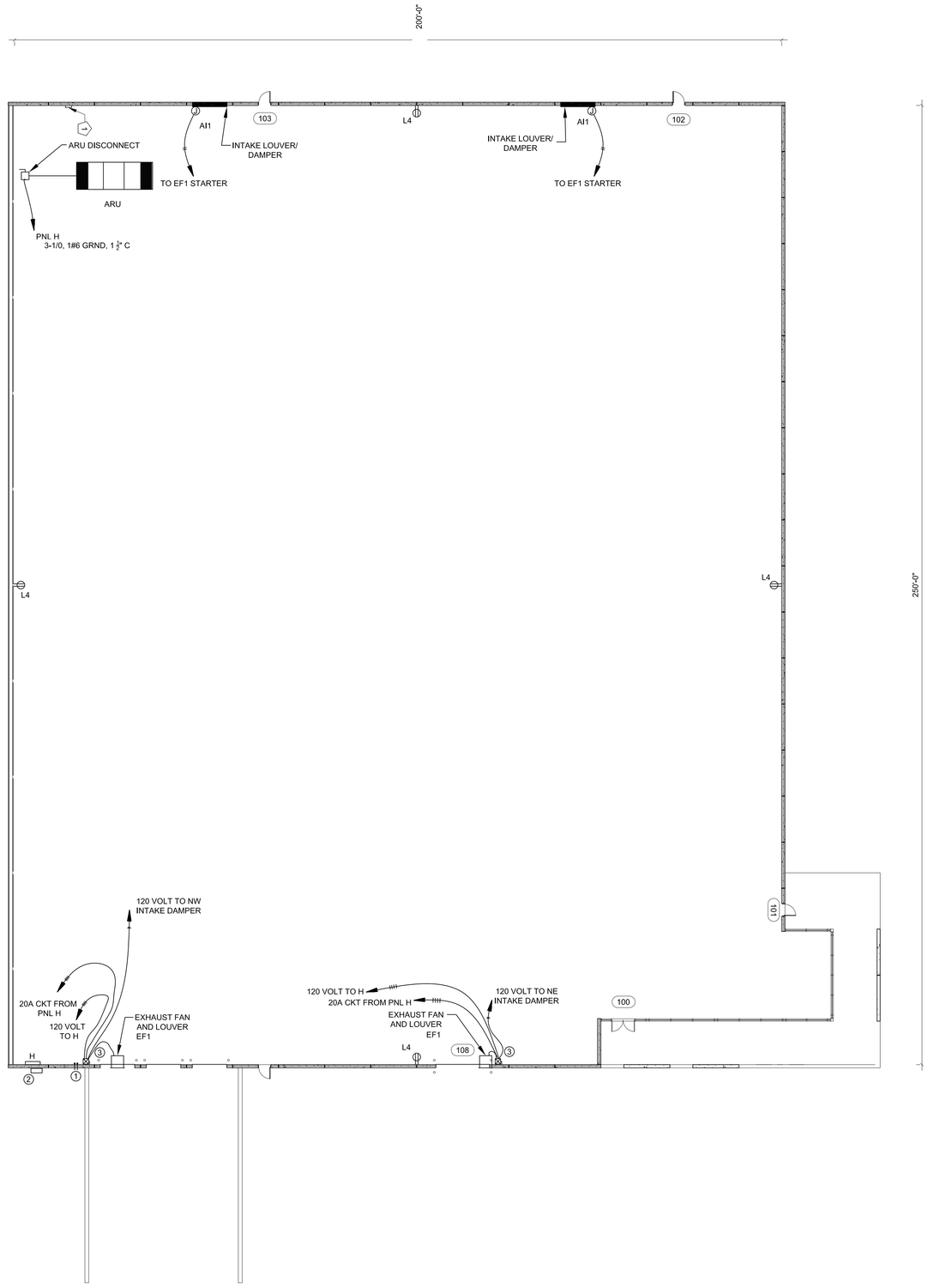
SHEET TITLE

VERMILLION RISE SHELL BUILDING PROJECT ELECTRICAL NOTES

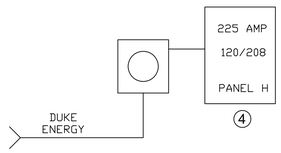
E100

SHEET 1 OF 3



ELECTRICAL NOTES:

1. (2) 4" CONDUIT SLEEVES FOR FUTURE PHONE AND DATA
2. ELECTRIC METER LOCATION, COORDINATE w/DUKE ENERGY
3. SIZE 1 COMBINATION MOTOR STARTER, PROVIDE AUXILIARY RELAY WITHIN MOTOR STARTER TO INTERLOCK THE 120 VOLT CORRESPONDING INTAKE DAMPERS.
4. 225 AMP 120/208 3 PHASE MB 42 CKT PANEL w/1-150 3P, 4-20A-2P, 4-20A-1P, 27 SPACES



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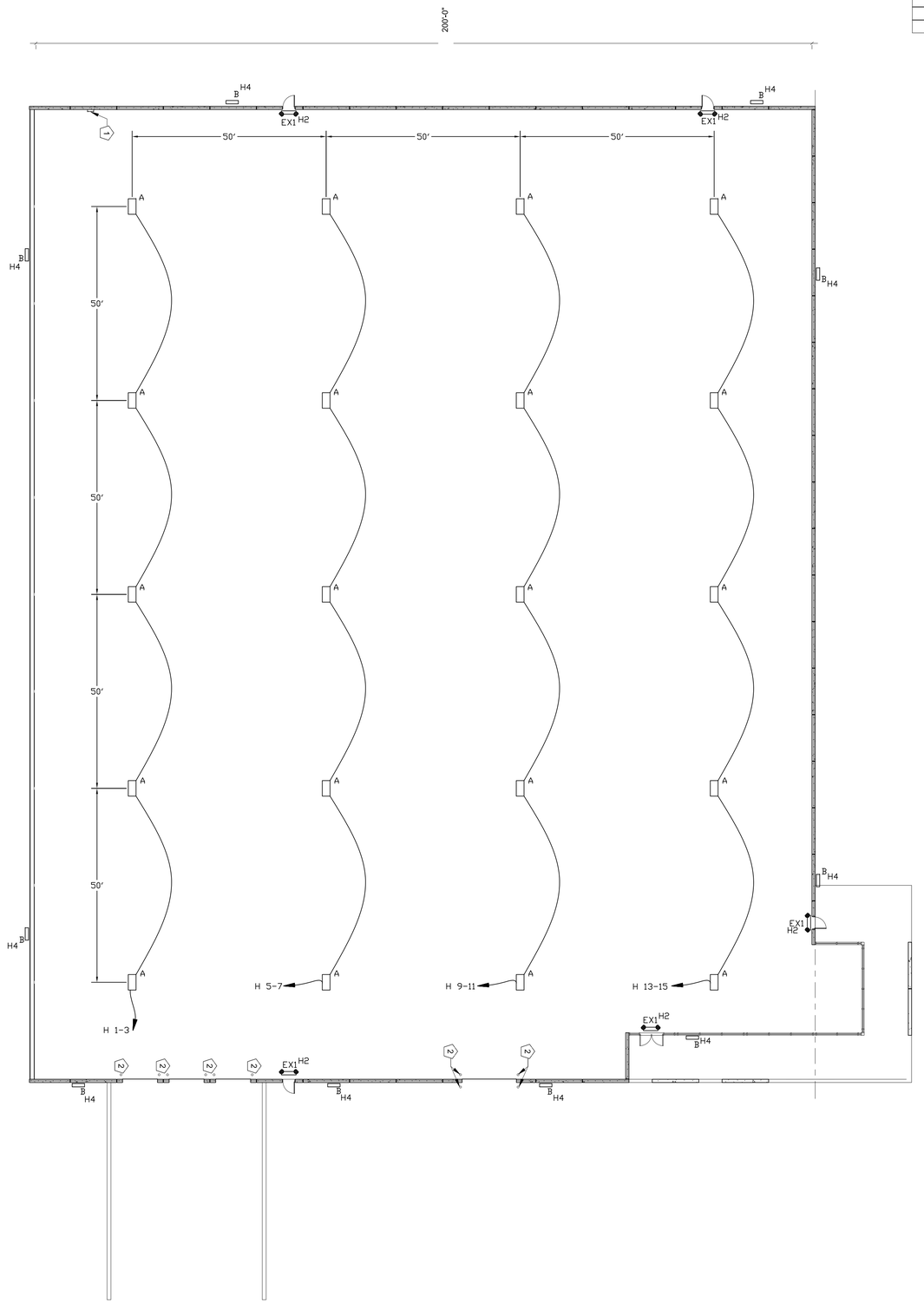
VERMILLION RISE SHELL BUILDING PROJECT ELECTRICAL PLAN

E-101

SHEET SHEET INDEX OF TOTAL SHEETS

LIGHTING SCHEDULE				
QUANTITY	TAG	MANUFACTURER	MODEL #	DESCRIPTION
5	EX1	LITHONIA	ECR LED M6	RED EMERGENCY EXIT LIGHT
20	A	SIMKAR	RG2454RHE4LU1850KOC4-CA2	RG2 SERIES T5HO w/OCC
10	B	SIMKAR	LPLW8040U11B	LEDPRO LARGE WALLPACK



LIGHTING NOTES:

1. 2x4 HIGHBAY FLOURESENT FIXTURES, LIGHTS TO BE CONTROLLED AT BREAKER
2. EXTERIOR WALL PACKS TIED TO PHOTOCELL

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VERMILLION RISE SHELL BUILDING PROJECT LIGHTING PLAN

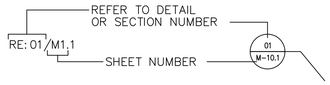
E-102

SHEET SHEET INDEX OF TOTAL SHEETS

SYMBOLS

GENERAL SYMBOLS

- CONNECT NEW TO EXISTING
- TERMINATION POINT OF DEMOLITION
- CONNECT TO MANUFACTURER'S PREPIPED CONNECTION
- PREPURCHASED EQUIPMENT
- (1) DRAWING NOTE DESIGNATION



DUCTWORK SYMBOLS

- RETURN AIR DUCT
- SUPPLY OR OUTSIDE AIR DUCT
- EXHAUST OR RELIEF AIR DUCT
- OR ∅ ROUND DUCT DIAMETER
- OVAL DUCT DIAMETER
- (X) XX/XXX DIFFUSER OR GRILLE TAG: "X"=TYPE, "XX" = DUCT CONNECTION, "XXX" = CFM
- SINGLE DUCT HVAC TERMINAL UNIT
- (T) THERMOSTAT
- (H) HUMIDISTAT
- T TEMPERATURE SENSOR
- H HUMIDITY SENSOR
- S SMOKE DETECTOR
- INTERLOCK LOGIC INDICATOR
- I/P CURRENT TO PNEUMATIC TRANSDUCER

CONTROLS TAGS AND INDENTIFIERS

- (XX) DISCRETE FIELD MOUNTED INSTRUMENTS
- XX DIRECT DIGITAL CONTROLS ELEMENT

CI	CONDUCTIVITY INDICATOR
CT	CONDUCTIVITY TRANSMITTER
CO	CARBON DIOXIDE SENSOR
DPI	DIFFERENTIAL PRESSURE INDICATOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
FT	FLOW TRANSMITTER
HI	HUMIDITY INDICATOR
HT	HUMIDITY TRANSMITTER
HIS	HAND INDICATOR AND SWITCH
LC	LEVEL CONTROLLER
LI	LEVEL INDICATOR
LSH	LEVEL SENSOR HIGH
LSL	LEVEL SENSOR LOW
LT	LEVEL TRANSMITTER
PI	PRESSURE INDICATOR
PT	PRESSURE TRANSMITTER
TC	TEMPERATURE CONTROLLER
TI	TEMPERATURE INDICATOR
TT	TEMPERATURE TRANSMITTER

EQUIPMENT

- PUMP (GENERIC)
- SPLIT CASE PUMP
- END SUCTION PUMP
- EXISTING TO REMAIN (SERVICE AS INDICATED)
- EXISTING TO BE REMOVED
- NEW (SERVICE AS INDICATED)

PIPING SYMBOLS

- EXISTING PIPING TO REMAIN (SERVICE AS INDICATED)
- EXISTING PIPING TO BE REMOVED (SERVICE AS INDICATED)
- NEW PIPING (SERVICE AS INDICATED)
- ELBOW IN PIPE RISING UP
- ELBOW IN PIPE DROPPING DOWN
- PIPE CAP
- TEE IN PIPE RISING UP
- TEE IN PIPE DROPPING DOWN
- UNION
- DIRECTION OF FLOW
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- BALL VALVE
- GATE VALVE
- GLOBE VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- VALVE IN PIPE
- CONTROL VALVE (2-WAY)
- CONTROL VALVE (3-WAY)
- SAFETY RELIEF VALVE
- TEMPERATURE AND PRESSURE RELIEF VALVE
- CIRCUIT BALANCING VALVE (CIRCUIT SETTER)
- CHECK VALVE
- FUSIBLE LINK VALVE
- TRIPLE DUTY VALVE
- BOILER STOP AND CHECK
- PRESSURE REGULATOR, PRESSURE REDUCING
- VB VACUUM BREAKER
- STEAM TRAP
- STRAINER
- DOUBLE BASKET STRAINER
- A ANCHOR
- G GUIDE
- EJ EXPANSION JOINT
- FLEXIBLE CONNECTION
- FM FLOW METER
- M WATER METER
- R GAS REGULATOR
- VENTURI METER
- FM FLOW SWITCH
- THERMOMETER
- P PRESSURE GAUGE
- MV MANUAL AIR VENT
- AV AUTOMATIC AIR VENT (EXTEND DISCHARGE TO DRAIN)

SYMBOLS

DOUBLE LINE DUCT	SINGLE LINE DUCT	
		DUCT CONTINUATION
AD	AD	ACCESS DOOR (BOTTOM OF SIDE)
		ACOUSTICALLY LINED DUCT
FD	FD	FIRE DAMPER
SD	SD	SMOKE DAMPER
FSD	FSD	COMBINATION FIRE/SMOKE DAMPER
M	M	VOLUME DAMPER (MOTORIZED)
		VOLUME DAMPER (MANUAL)
DN	DN	INCLINED DROP IN DIRECTION OF ARROW
UP	UP	INCLINED RISE IN DIRECTION OF ARROW
		TRANSITION, RECTANGULAR TO ROUND
		FLEXIBLE DUCT
		IN-LINE FAN
		TRANSITION, RECTANGULAR
SP	SP	SPIN-IN COLLAR INTO ADAPTER ON TOP OF DUCT WITH DAMPER
		CEILING SUPPLY AIR DIFFUSER
		SIDEWALL SUPPLY AIR DIFFUSER
		SUPPLY AIR SLOT DIFFUSER
		ELBOW TURNED DOWN
		ELBOW TURNED UP
		ELBOW, RADIUS TYPE (ROUND OR RECTANGULAR)
		ELBOW, SQUARE OR RECTANGULAR TYPE WITH AIRFOIL TURNING VANES
		RETURN OR EXHAUST AIR DUCT
		CEILING RETURN AIR REGISTER
		SIDEWALL RETURN AIR REGISTER
		RETURN AIR SLOT DIFFUSER
		OPEN ENDED DUCT
		FLEXIBLE CONNECTION
		DUCT MOUNTED HEATING COIL
		DUCT EXTRACTOR
		RECTANGULAR BRANCH TAKE-OFF WITH 45° BRANCH INLET
		ROUND BRANCH TAKE-OFF FROM RECTANGULAR MAIN WITH CONICAL TAP
		FLARED SPIN-IN WITH DAMPER AND FLEX DUCT (DIFFUSER CONNECTION)
		EXISTING DUCT TO BE REMOVED

GENERAL NOTES

1. EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE HANGERS AND SUPPORTS REQUIRED FOR COMPLETE INSTALLATION.
2. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, SLEEVES SHALL BE COMPLETELY SEALED WITH FIRE STOP MATERIAL THAT IS UL LISTED. MAINTAIN THE FIRE RATING OF THE PENETRATED WALL OR FLOOR.
3. HERE APPROVAL CODES HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORY, AMERICAN CODES, INTERNATIONAL CODES, ANSI, ASME, ASA, ASHRAE, ASTM, ARI, NEC, NFPA, SMACNA, OR THE STATE FIRE INSURANCE REGULATORY BODY, THE CONTRACTOR SHALL FOLLOW THESE STANDARDS WHETHER INDICATED OR NOT ON THE DRAWINGS.
4. COORDINATE WORK WITH OTHER BUILDING FEATURES AND AVOID INTERFERENCES WITH PIPING, DUCTWORK, EQUIPMENT, PLUMBING, AND MECHANICAL COMPONENTS. REFER TO ALL DOCUMENTS PERTAINING TO THE PROJECT FOR COORDINATION WITH OTHER TRADES TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER ELECTRICAL CHARACTERISTICS, AND PROPER SERVICE CLEARANCES.
5. DUCTWORK SIZES SHOWN ARE FREE AIRSTREAM DIMENSIONS. TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS, EXCEPT WHERE SMOOTH RADIUS ELBOWS ARE INDICATED.
6. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAILS, AND ACCESSORIES MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED TO COMPLETE INSTALLATION.
7. PROVIDE VOLUME DAMPERS ON ALL LOW PRESSURE BRANCHES AND TAKE-OFFS WHETHER THEY ARE INDICATED OR NOT ON THE DRAWINGS.
8. PROVIDE CUTTING AND PATCHING FOR MECHANICAL WORK. PATCHING SHALL MATCH EXISTING SURFACES AND SHALL BE CONSISTENT WITH THE OWNER'S STANDARDS FOR ADJACENT FINISHES.
9. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATIONS IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR COMPROMISE THE INTEGRITY IN ANY WAY. COORDINATE PENETRATIONS WITH ROOFING INSTALLER BEFORE PROCEEDING WITH WORK.
10. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, AND ELECTRICAL PANELS LOCATED IN MECHANICAL ROOMS WITH MECHANICAL EQUIPMENT PRIOR TO INSTALLATION. WORK NOT COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT MECHANICAL CONTRACTOR'S EXPENSE.
11. VIBRATING, OSCILLATING AND OTHER NOISE PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SYSTEMS AND SURROUNDING STRUCTURE IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE REPLACED OR REPAIRED AT MECHANICAL CONTRACTOR'S EXPENSE. FINAL APPROVAL OF THE INSTALLATION SHALL BE THAT OF THE ENGINEER.
12. DEVIATIONS IN SIZE, CAPACITY, FIT, AND FINISH OF EQUIPMENT FROM THAT SPECIFIED HEREIN MAY REQUIRE ALTERATIONS OF THE DESIGN. DESIGN CHANGES OR CONSTRUCTION PROVISIONS REQUIRED TO ACCOMMODATE ALTERNATIVE EQUIPMENT SELECTIONS WILL BE THE RESPONSIBILITY OF THE PURCHASER, FURTHERMORE ANY DEVIATIONS MUST BE APPROVED BY THE ENGINEER.
13. PRIOR TO CONCRETE PLACEMENT, COORDINATE AND PROVIDE FOR SLAB PENETRATIONS AND SLEEVES.
14. INSTALL NO PIPING, CONDUIT, DUCTWORK, OR TUBING IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON.
15. VALVES, BALANCING DAMPERS, AND MECHANICAL EQUIPMENT SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS PANEL SHALL BE PLACED UNDER THE ITEM TO ALLOW FOR MAINTENANCE AND ADJUSTMENT.
16. MECHANICAL EQUIPMENT SHALL BE 60 HZ UNLESS OTHERWISE INDICATED.
17. CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN CHAPTER 16 OF 2000 INTERNATIONAL BUILDING CODE, THIRD PRINTING, ADOPTED AS INDIANA BUILDING CODE, 2003 EDITION WITH INDIANA AMENDMENTS.

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CONSULTANTS

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OWNER

MARK	DATE	DESCRIPTION
	5/2/16	FOR REVIEW

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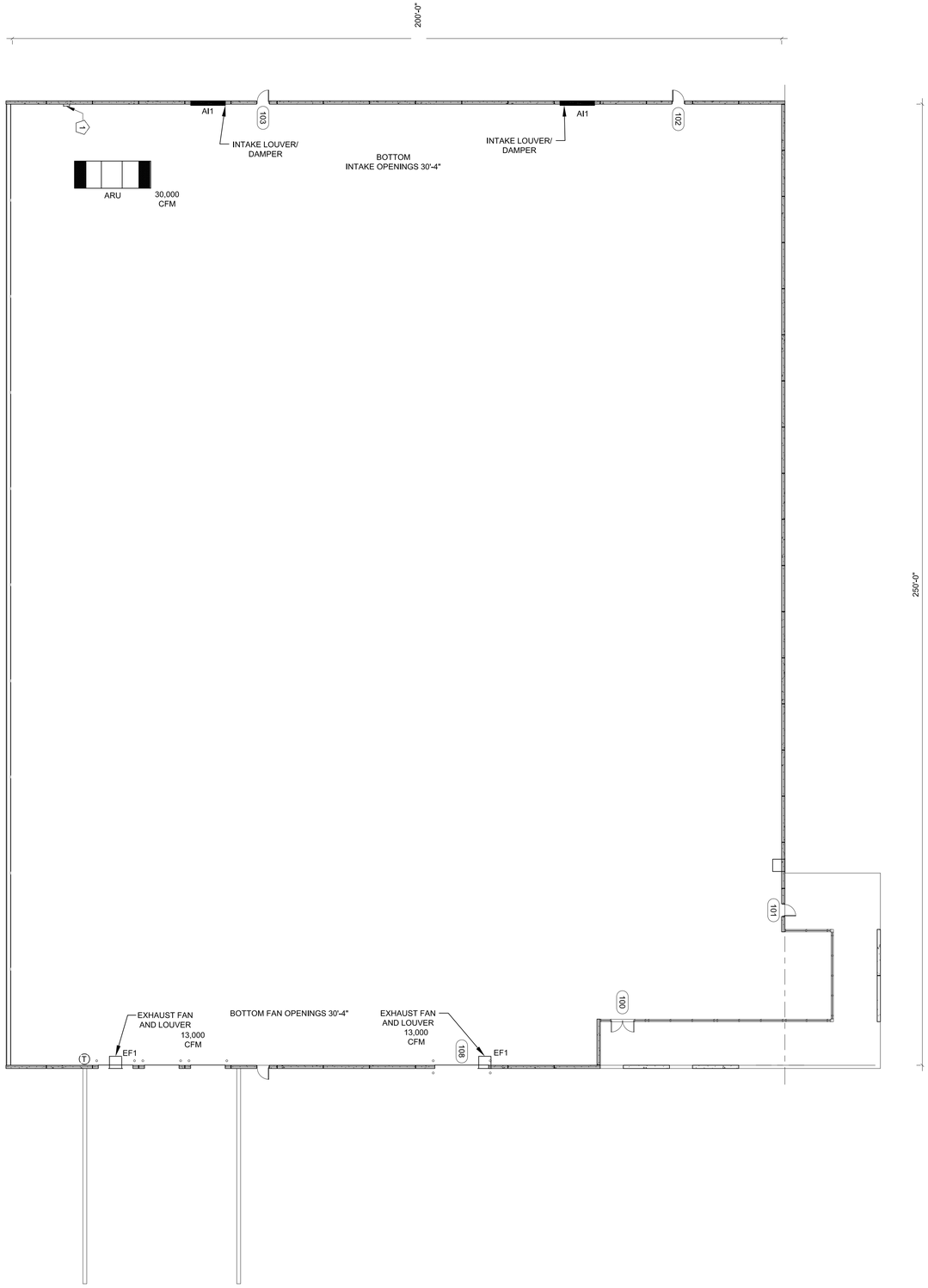
SHEET TITLE

VERMILLION RISE
SHELL BUILDING PROJECT
MECHANICAL NOTES

M100

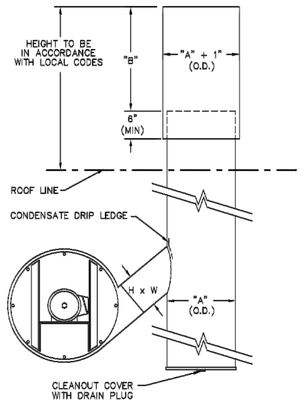
SHEET 1 OF 3



MECAHNICAL NOTES:

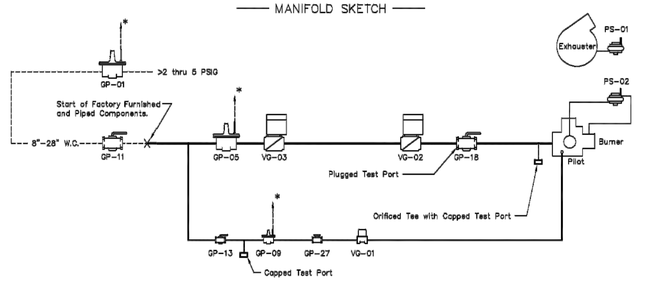
1. AIR ROTATION UNIT TO BE CONTROLLED OFF OF THERMOSTAT (1)

MECHANICAL SCHEDULE					
TAG	MANUFACTURER	MODEL #	MOTOR	VOLTAGE	OPENING SIZE
ARU	APPLIED AIR	IFA-250/175/175	40 HP	208/60/3	
EF1	GREENHECK	SE2-30-620-B20-VGD	2 HP	208/60/3	45 3/4" SQ
AI1	GREENHECK	EACA-635		120	108" W x 48" H



DIMENSIONS				
SIZE	"A"	"B"	"H"	"W"
175	12	48	9	9-3/8

NOTES:
1. WEIGHT OF STACK MUST BE SUPPORTED FROM FLOOR OR BUILDING STRUCTURE. DO NOT SUPPORT STACK FROM INDUCED DRAFT FAN.
2. RECOMMENDED STACK MATERIAL IS 14 GAGE SERIES 400 STAINLESS STEEL. CONTINUOUSLY BUTT WELDED EXHAUST STACK.
3. DIMENSIONS "H" AND "W" ARE THE O.D. OF THE EXHAUSTER DISCHARGE.



COMPONENT I.D.

GP-01 HIGH GAS PRESSURE REGULATOR
GP-05 MAIN GAS PRESSURE REGULATOR
GP-09 PILOT GAS PRESSURE REGULATOR
GP-11 GAS SHUT-OFF VALVE (SHIP LOOSE)
GP-13 PILOT GAS SHUT-OFF VALVE
GP-18 AUXILIARY GAS SHUT-OFF VALVE
GP-27 ORIFICED NEEDLE VALVE

PS-02 BURNER AIR FLOW SWITCH
PS-01 DRAFT PROVING SWITCH

VG-01 PILOT GAS VALVE
VG-02 MAIN GAS VALVE (3-POSITION)
VG-03 AUXILIARY GAS VALVE

GAS PIPING - INDIRECT FIRED NOTES

1) BTU/PIPE SIZE BASED ON NATURAL GAS AND MINIMUM INLET PRESSURE SHOWN.
2) ----- DENOTES PIPING BY OTHERS.
3) * VENT LIMITING DEVICES ARE PROVIDED WHEREVER POSSIBLE. WHEN VENTING IS REQUIRED THE VENTING TO OUTSIDE IS BY OTHERS ON INDOOR UNITS, FURNISHED BY FACTORY ON OUTDOOR UNITS.

BTU/HR OUTPUT	1,500,000 THRU 1,750,000
PIPE SIZE	1-1/2"

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VERMILLION RISE SHELL BUILDING PROJECT MECHANICAL PLAN

M-101

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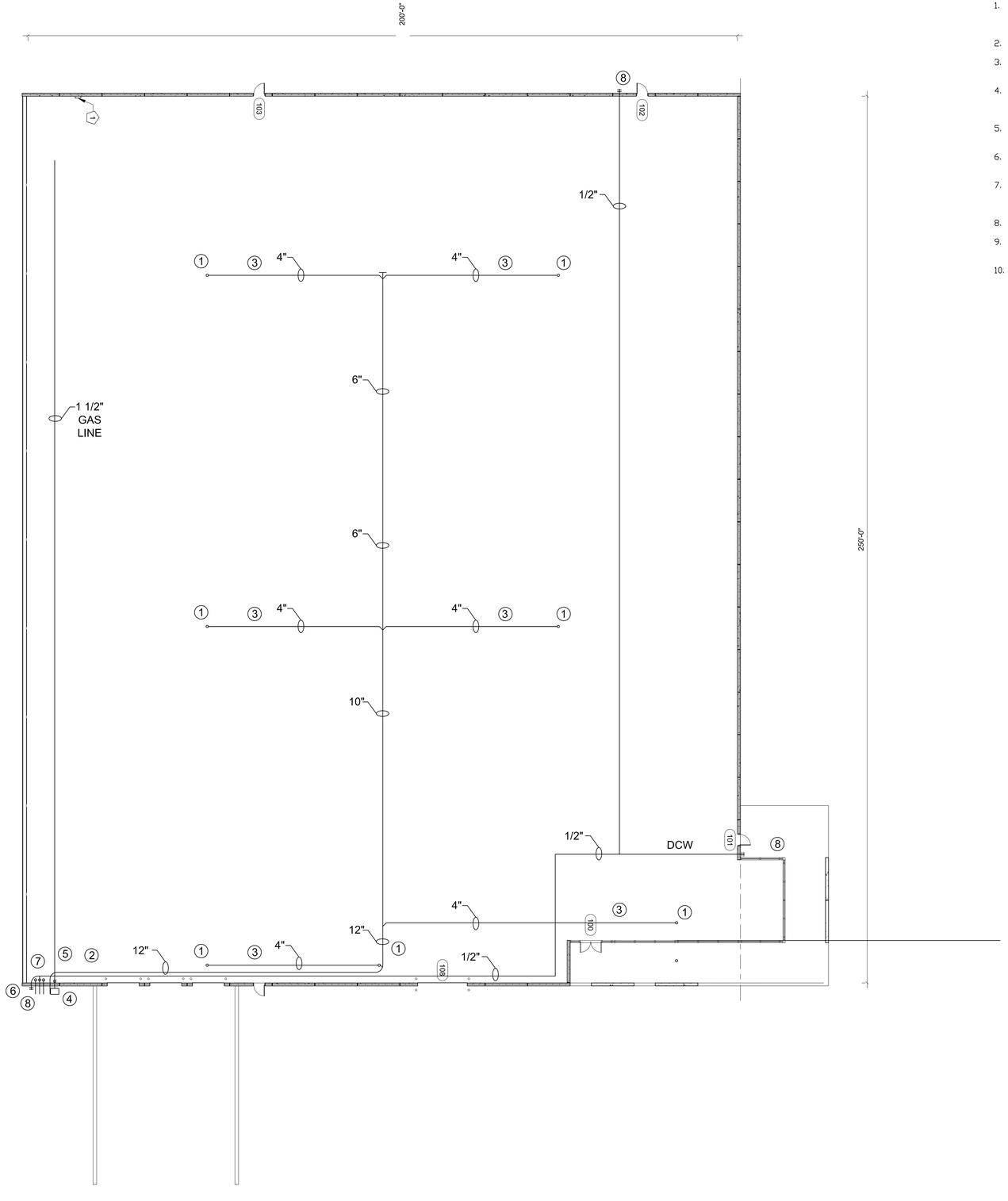

PLUMBING NOTES:

1. 4" ROOF DRAIN w/4" OVERFLOW. UNDER DECK CLAMPS AND FLASHING. ROOFING MEMBRANE TO SLOPE TO DRAIN LOCATIONS
2. DOWN TO BELOW GRADE AND 5' OUTSIDE
3. INSULATE ROOF DRAIN PANS AND HORIZONTAL PIPING ONLY TO MAIN
4. GAS METER BY UTILITY COMPANY, 2" GAS MAIN INTO BUILDING, PROVIDE 1 1/2" GAS REGULATOR TO ARU. ARU LINE TO BE RAN IN RAFTERS
5. 8" SANITARY WASTE STUBBED INTO BUILDING, CAP BELOW GRADE
6. 8" FIRE WATER LINE STUBBED INTO BUILDING AND UP 1'-0" AFF
7. 2" DOMESTIC WATER LINE STUBBED INTO BUILDING AND UP 1'-0" AFF. 1/2" BRANCH OFF 2" DCW TO EXTERIOR HOSE BIB LOCATED 24" AFF.
8. 1/2" DCW BRANCH UP TO STEEL HOSE BIB
9. SANITARY STUB DEPTH T.O.P. 4'-0" BELOW FINISH FLOOR
10. STORM DEPTH T.O.P. 3'-0" AT INVERT EXIT.

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M-102

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