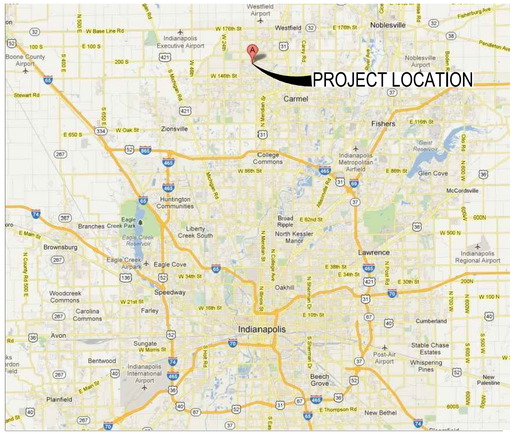
FINAL CONSTRUCTION PLANS

CENTENNIAL BIBLE CHURCH
720 LIBERTY DRIVE
WESTFIELD, INDIANA



VICINITY MAP
NO SCALE

LOCATION MAP
NO SCALE

PLAN INDEX	
SHEET #	SUBJECT
100	TITLE SHEET
200	TOPOGRAPHICAL SURVEY & DEMOLITION PLAN
300	SITE DIMENSION & UTILITY PLAN
400	GRADING & EROSION CONTROL PLAN
401	EROSION CONTROL DETAILS
500	LANDSCAPE PLAN
600	MISCELLANEOUS DETAILS
700	SPECIFICATIONS
CB3927	PHOTOMETRIC PLAN

OWNER
CENTENNIAL BIBLE CHURCH
720 LIBERTY DRIVE
WESTFIELD, INDIANA
PHONE: (317) 753-3167
CONTACT: STEPHANIE KEEN

DEVELOPER
T&W CHURCH SOLUTIONS
3841 W. MORRIS STREET
INDIANAPOLIS, IN 46241
PHONE: (317) 244-7637
FAX: (317) 244-6348
CONTACT: BRYAN CROSTREET

ENGINEER
CROSSROAD ENGINEERS, PC
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
PHONE: (317) 780-1555
FAX: (317) 780-6525
CONTACT: GREG J. ILKO

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
3417 Sherman Drive, Beech Grove, IN 46107 (317) 780-1555

SHEET 100

TITLE SHEET

CENTENNIAL BIBLE CHURCH

JOB No.	.	DRAWN	LMC	CHECKED	TEN	APPR.	GJI
DATE	AUGUST 3, 2012	DESIGNED	DJM				

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 100

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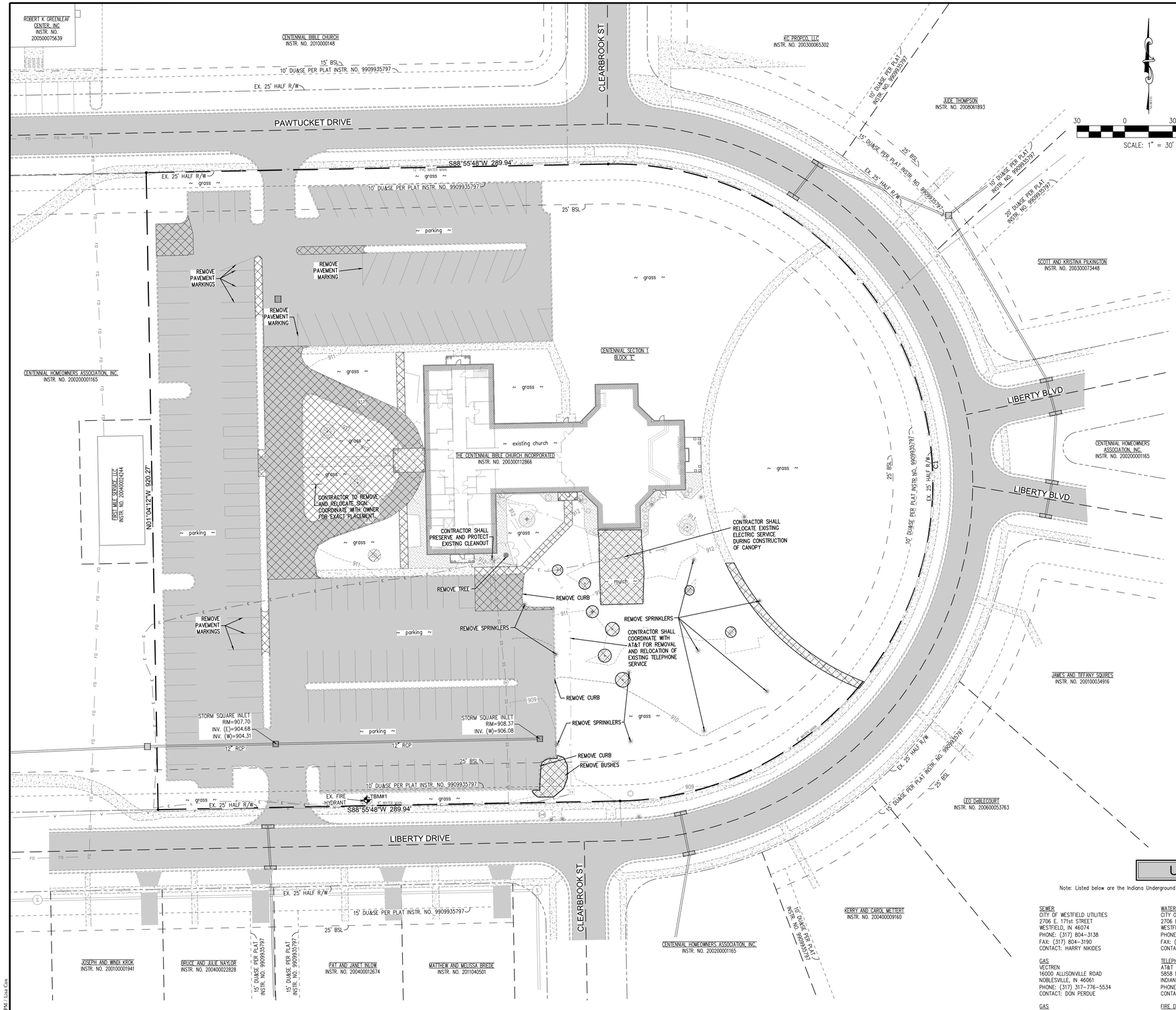

EXISTING LEGEND

AIR CONDITION	CONTOURS
ELECTRIC METER	RIGHT-OF-WAY
ELECTRIC BOX	ADJOINER LINE
YARD LIGHT	PAVEMENT LINE
TELEPHONE RISER	SETBACK LINE
WATER VALVE	EASEMENT LINE
FIRE HYDRANT	FENCE LINE
WATER METER	TELEPHONE LINE
CLEANOUT	WATER LINE
TREES & BUSH	ELECTRIC LINE
TEMP. BENCHMARK	SANITARY LATERAL
MONUMENT FOUND	TREE LINE
	STORM SEWER W/SQUARE INLET

ASPHALT · BUILDING · CONCRETE · MULCH · REMOVAL/DEMOLISH

TOPOGRAPHICAL NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
2. UTILITIES ARE GRAPHICAL REPRESENTATION PER SURVEY AND MAPPING. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES FOR SERVICE DIS-CONNECTIONS.

FLOODPLAIN INFORMATION

BY GRAPHIC PLOTTING ONLY, THE TRACT OF LAND, TO IT'S ENTIRETY, DESCRIBED HEREON LIES WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS PLOTTED BY HAND ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR HAMILTON COUNTY, INDIANA, COMMUNITY PANEL NO. 18057C0119, PANEL NOT PRINTED PER FEMA.

BENCHMARK INFORMATION

BM #1
STATION NAME: HAM 41
TYPE OF MONUMENT: DNR DISK
YEAR ESTABLISHED: 1989
DESCRIPTION: A DEPARTMENT OF NATURAL RESOURCES BRASS TABLET, STAMPED "HAM 41", SET IN THE TOP OF A CONCRETE POST. ON THE NORTH SIDE OF 156TH STREET APPROXIMATELY 1334' WEST OF THE CENTER OF DITCH ROAD.
ELEVATION = 917.54 (NAVD 88)

TBM #1
CHISELED "X" ON NNE BONNETT BOLT OF FIRE HYDRANT ±30' E OF S ENTRANCE INTO THE CHURCH.
ELEVATION=910.19

LEGAL DESCRIPTION

INSTRUMENT No. 200300112866
BLOCK E IN CENTENNIAL, SECTION 1, A SUBDIVISION LOCATED IN HAMILTON COUNTY, INDIANA ON THE PLAT RECORDED AS INSTRUMENT NUMBER 9909935797 IN THE OFFICE OF THE RECORDER OF HAMILTON COUNTY DATED JUNE 5, 1999.

EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

CURVE DATA TABLE

CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH
C1	180°00'00"	199.97'	628.22'	S01°04'12"E	399.94'

UTILITIES

Note: Listed below are the Indiana Underground Plant Protection Services Contacts; Others not listed may exist.

SEWER
CITY OF WESTFIELD UTILITIES
2706 E. 171st STREET
WESTFIELD, IN 46074
PHONE: (317) 804-3138
FAX: (317) 804-3190
CONTACT: HARRY NIKIDES

GAS
VECTREN
16000 ALLISONVILLE ROAD
NOBLESVILLE, IN 46061
PHONE: (317) 317-776-5534
CONTACT: DON PERDUE

GAS
WESTFIELD GAS CORP.
2150 DR. MARTIN LUTHER KING JR. ST.
INDIANAPOLIS, IN 46200
PHONE: (317) 927-4684
CONTACT: RICHARD MILLER, JR.

WATER
CITY OF WESTFIELD UTILITIES
2706 E. 171st STREET
WESTFIELD, IN 46074
PHONE: (317) 804-3138
FAX: (317) 804-3190
CONTACT: HARRY NIKIDES

TELEPHONE
AT&T
5858 N. COLLEGE AVENUE
INDIANAPOLIS, IN 46220
PHONE: (317) 252-4007
CONTACT: MICHAEL HAYNES

FIRE DEPARTMENT
WESTFIELD FIRE DEPARTMENT
17535 DARTOWN ROAD
WESTFIELD, IN 46074
PHONE: (317) 804-3303
CONTACT: ROBERT GAYLOR

CABLE
BRIGHTHOUSE NETWORKS
3030 ROOSEVELT AVENUE
INDIANAPOLIS, IN 46218
PHONE: (317) 632-9077
CONTACT: JASON KIRKMAN

CABLE
COMCAST
9750 E. 150th STREET, STE 1600
NOBLESVILLE, IN 46060
PHONE: (765) 646-9113
CONTACT: DALE LAMBERT

ELECTRIC
DUKE ENERGY
100 MILL CREEK ROAD
NOBLESVILLE, IN 46060
PHONE: (317) 776-5352
CONTACT: TRACY GRADY

NOTE: The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although the surveyor does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

HOLEY MOLEY SAYS
"DON'T DIG BLIND"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IS-69-1991. IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

CROSSROAD ENGINEERS, PE
Transportation & Development Consultants
115 West Washington Street, Suite 1560 South, Indianapolis, IN 46204 (317) 636-4682
SHEET 200

TOPOGRAPHICAL SURVEY

CENTENNIAL BIBLE CHURCH

JOB No.	.	DRAWN	LMC	CHECKED	TEN
DATE	AUGUST 3, 2012	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO
REGISTERED
NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISIONS	APPR.
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SHEET 200

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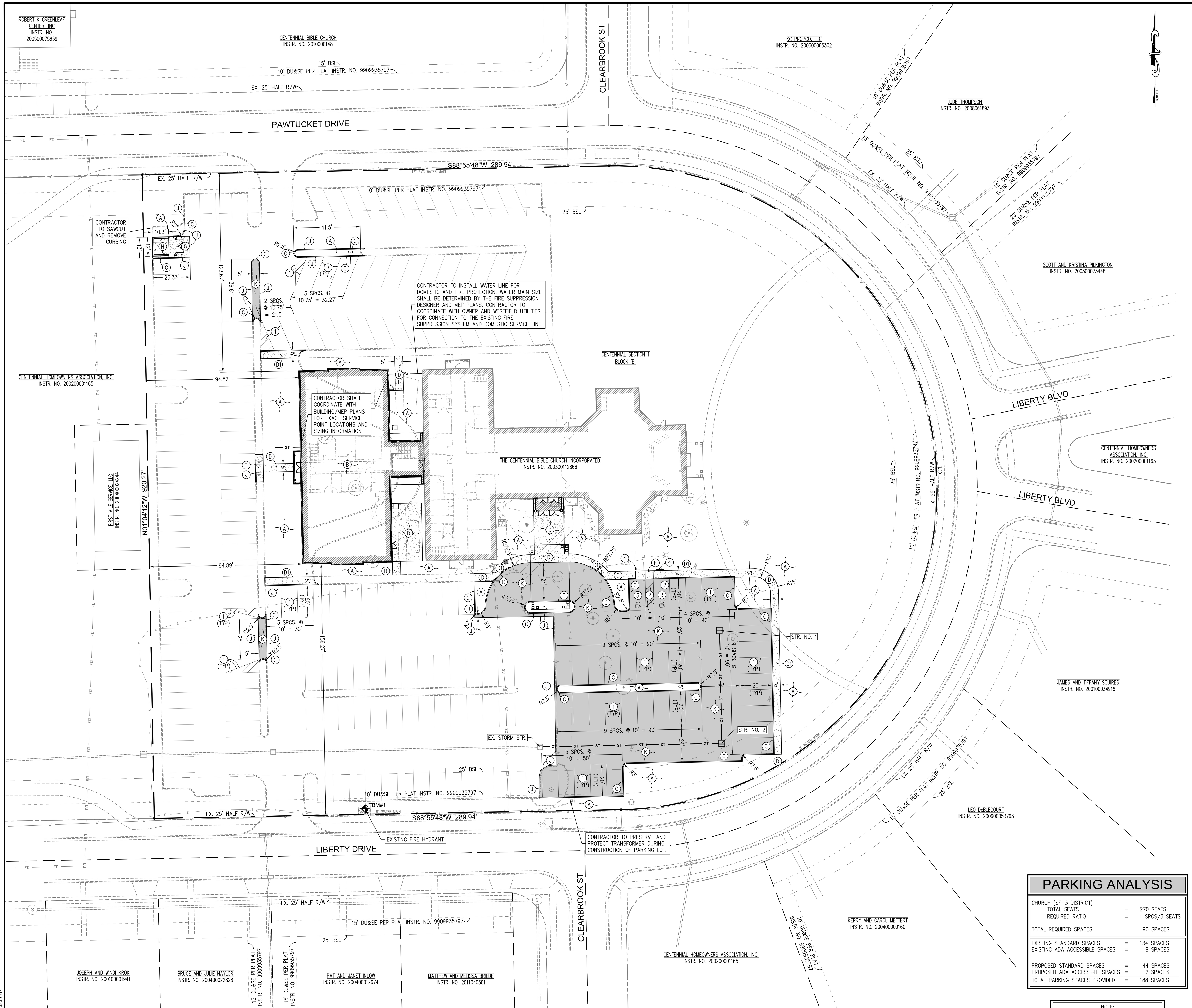


PROPOSED LEGEND

PROPERTY LINE
ST — ST — ST STORM LINE
PW — PW — PW WATER LINE

SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (C) STRAIGHT CONCRETE CURB (SEE DETAIL–SHEET 600)
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL–SHEET 600)
- (D1) MONOLITHIC CONCRETE CURB AND SIDEWALK (SEE DETAIL–SHEET 600)
- (F) HANDICAP RAMP (SEE DETAIL–SHEET 600)
- (G) TYPICAL CONCRETE SECTION
  6" CONCRETE SLAB, ON
  6" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 600)
- (H) TRASH ENCLOSURE (SEE DETAIL–SHEET 600)
- (J) SAWCUT
- (K) TYPICAL ASPHALT SECTION
  1" HMA SURFACE 9.5mm, ON
  2" HMA INTERMEDIATE 19.0mm, ON
  8" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 600)
- (1) LINE, PAINTED, SOLID WHITE, 4"
- (2) LINE, PAINTED, SOLID BLUE, 4"
- (3) HANDICAP SYMBOL, PAINTED, SOLID BLUE, 4"
- (4) SIGNAGE (SEE DETAIL THIS SHEET)

SITE DIMENSION & UTILITIES NOTES

1. STREET SIGNAGE AND LIGHTING SHALL CONFORM TO CITY OF WESTFIELD STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR CITY OF WESTFIELD FOR LIGHT STYLES AND LAYOUT.
2. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
3. ALL RADII DIMENSIONS ARE TO THE FACE OF PROPOSED CURB.
4. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
5. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL SIGNAGE. VERIFY CONFLICTS WITH OWNER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
7. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, GAS, AND TELEPHONE CONNECTION SERVICE POINTS.
8. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.
9. WATER MAIN INSTALLATION SHALL BE IN ACCORDANCE WITH THE CITY OF WESTFIELD WATER UTILITY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH WESTFIELD FOR CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS. ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM 54 INCHES OF COVER FROM FINISH GRADE. MAIN SHALL BE DEFLECTED AS REQUIRED TO MAINTAIN MINIMUM SEPARATION REQUIREMENTS AT ALL UTILITY CROSSINGS.
10. CONTRACTOR TO COORDINATE WITH DUKE ENERGY FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS AND SPECIFICATIONS, AND BUILDING PLANS FOR ALL SERVICE POINTS AT EACH BUILDING.
11. GATE VALVES SHALL BE INSTALLED ON ALL SERVICE LINE TAPS. COORDINATE WITH THE CITY OF WESTFIELD WATER UTILITY FOR ALL STANDARDS AND SPECIFICATIONS.
12. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
13. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.
14. CONTRACTOR TO COORDINATE WITH OWNER, DUKE ENERGY, AND MEP PLANS FOR UTILIZATION OF EXISTING ELECTRIC FACILITIES AND ROUTING OF SAID ELECTRICAL FACILITIES INTERNALLY WITHIN THE BUILDINGS.
15. CONTRACTOR TO COORDINATE WITH OWNER AND MEP PLANS FOR INTERNAL ROUTING OF SANITARY SEWER FACILITIES.

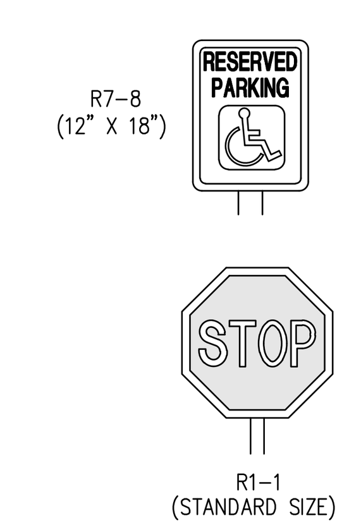
STORM STRUCTURE DATA TABLE

STR. NO. 1	STR. NO. 2	EX. STORM STR.
INSTALL TYPE 'A' INLET WITH NEENAH R–3405 CASTING OR APPROVED EQUAL AND 70 LFT OF 12"ø RCP @ 0.60% RIM=909.84 INV. OUT (12"~S)=907.34	INSTALL TYPE 'A' INLET WITH NEENAH R–3405 CASTING OR APPROVED EQUAL AND 112 LFT OF 12"ø RCP @ 0.75% RIM=909.42 INV. IN (12"~N)=906.92 INV. OUT (12"~W)=906.92	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS PRIOR TO INSTALLING ANY STORM SEWER INFRASTRUCTURE. CONTRACTOR SHALL CORE DRILL PROPOSED INVERT INTO EXISTING STRUCTURE. EX. RIM=908.37 PROP. INV. IN (12"~E)=906.08 EX. INV. OUT (12"~W)=906.08

PARKING ANALYSIS

CHURCH (SF–3 DISTRICT)		
TOTAL SEATS	=	270 SEATS
REQUIRED RATIO	=	1 SPCS/3 SEATS
TOTAL REQUIRED SPACES	=	90 SPACES
EXISTING STANDARD SPACES	=	134 SPACES
EXISTING ADA ACCESSIBLE SPACES	=	8 SPACES
PROPOSED STANDARD SPACES	=	44 SPACES
PROPOSED ADA ACCESSIBLE SPACES	=	2 SPACES
TOTAL PARKING SPACES PROVIDED	=	188 SPACES

NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.



SIGNAGE DETAILS (4)
NOT TO SCALE

T&W CHURCH SOLUTIONS

HOLEY MOLEY SAYS
"DON'T DIG BLIND"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IC-8-1-26-1991. IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

SITE DIMENSION & UTILITY PLAN

CENTENNIAL BIBLE CHURCH

JOB No.	-	DATE	AUGUST 3, 2012
DRAWN	LMC	DESIGNED	DJM
CHECKED	TEN	APPR.	GJI

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

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SHEET 300

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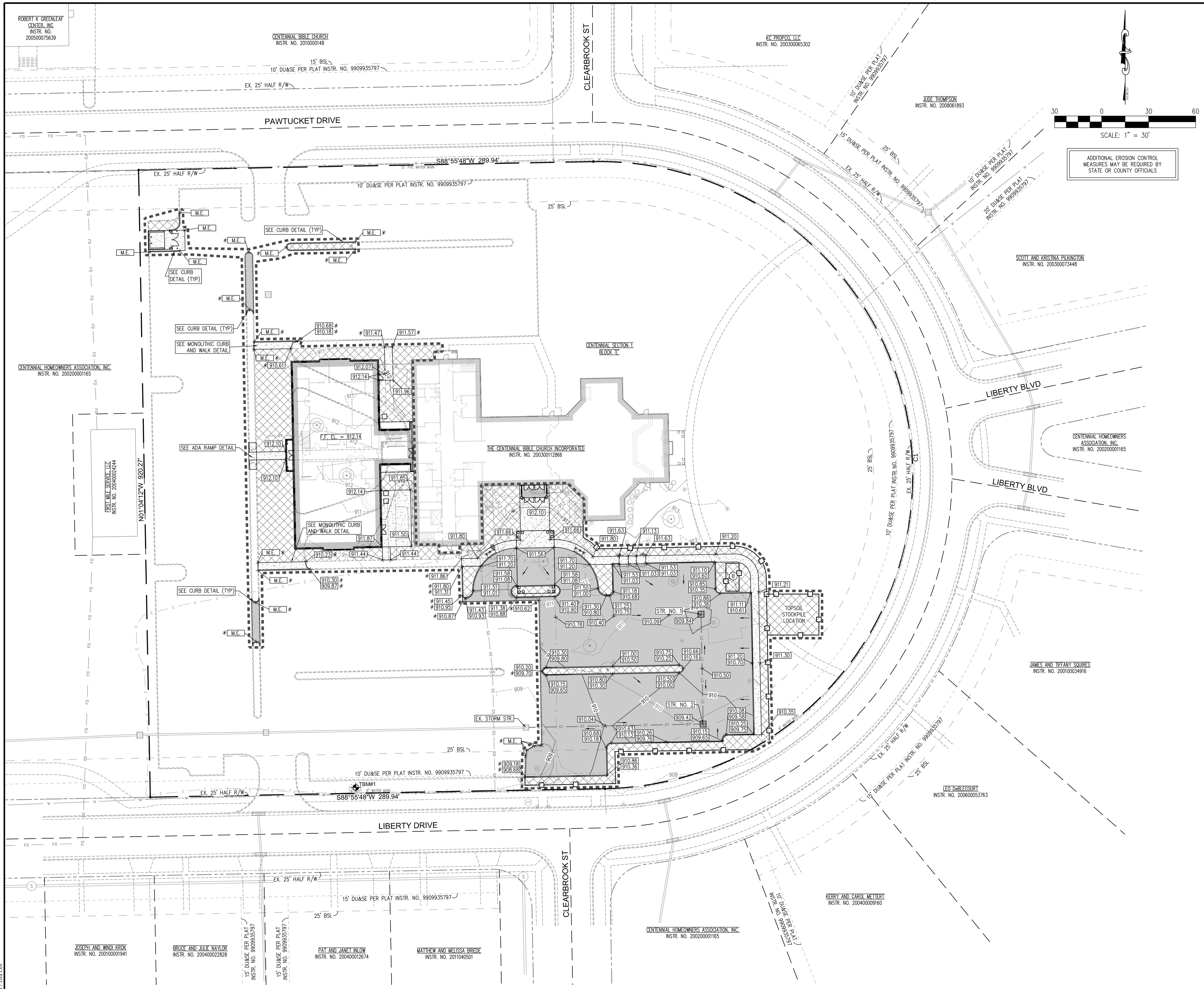

GRADING LEGEND

Symbol	Description
860.00 TOP OF CURB / 859.50 EDGE OF PAVEMENT; 860.00 FINISH GRADE	PROPOSED ELEVATIONS
860.00 * / 859.50 *; 860.00 *	PROPOSED ELEVATIONS (TO BE FIELD VERIFIED)
F.F. ELEV. = 810.70	PROPOSED FINISH FLOOR ELEVATION
	PROPOSED DRAINAGE SWALE
800	EXISTING CONTOURS
800	PROPOSED CONTOURS
GRADE BREAK	GRADE BREAK
*	CURB HEIGHT TO TAPER FROM 0.5' TO 0.0' IN 6 LFT.

EROSION CONTROL LEGEND

Symbol	Description
	MULCHED SEEDING
	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC-150 OR EQUAL) AND MULCHED SEEDING
	REVETMENT RIPRAP
	SILT FENCE SLOPE CHECK (NUTEC 3 NWS-6 OR APPROVED EQUAL)
	CONSTRUCTION LIMITS
(A)	SILTSACK INLET PROTECTION (SEE DETAIL-SHEET 401)
(B)	CONCRETE WASHOUT AREA (SEE DETAIL-SHEET 401)

BENCHMARK INFORMATION

BM #1
STATION NAME: HAM 41
TYPE OF MONUMENT: DNR DISK
YEAR ESTABLISHED: 1989
DESCRIPTION: A DEPARTMENT OF NATURAL RESOURCES BRASS TABLET, STAMPED "HAM 41", SET IN THE TOP OF A CONCRETE POST. ON THE NORTH SIDE OF 156TH STREET APPROXIMATELY 1334' WEST OF THE CENTER OF DITCH ROAD.
ELEVATION = 917.54 (NAVD 88)

TBM #1
CHISELED "X" ON NNE BONNETT BOLT OF FIRE HYDRANT ±30' E OF S ENTRANCE INTO THE CHURCH.
ELEVATION=910.19

GRADING NOTES

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS IN FINAL GRADING OF SITE. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT TO DETERMINE PROPER FOUNDATION EXPOSURE FOR EACH BUILDING TYPE, HOWEVER, IN NO INSTANCE SHALL DRAINAGE TOWARDS THE BUILDING FOUNDATION BE ALLOWED.
2. CONTRACTOR SHALL NOT ALLOW DRAINAGE FROM PROJECT SITE TO DISCHARGE ONTO ADJACENT PROPERTIES IN FINAL GRADING OF SITE.

EROSION CONTROL NOTES

1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, COUNTY, OR LOCAL OFFICIALS.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED IN THE FIELD BY THE INSPECTOR.
3. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS WITHIN ANY PUBLIC OR PRIVATE ROADWAY.
4. CONSTRUCTION STAGING AREA (TO BE DETERMINED BY CONTRACTOR) SHALL INCLUDE THE NOI POSTING, PORT-O-LETS, TRASH CONTAINERS, AND FUELING TANKS.
5. A TRAINED INDIVIDUAL MUST PERFORM AN INSPECTION ONCE A WEEK AND AFTER EVERY ½" OR MORE RAIN EVENT. A LOG OF THE INSPECTION REPORTS MUST BE KEPT AND MADE AVAILABLE TO THE TOWN INSPECTOR UPON REQUEST.
6. CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION ENTRANCE BY ROUTINE CLEANING/SWEEPING ACTIVITIES AT THE CONCLUSION OF EACH CONSTRUCTION DAY.
7. CONTRACTOR SHALL BE REQUIRED TO REPAIR ALL ASPHALT PAVEMENT THAT BECOMES DETERIORATED DUE TO CONSTRUCTION ACTIVITIES.

STORM STRUCTURE DATA TABLE

STR. NO. 1	STR. NO. 2	EX. STORM STR.
INSTALL TYPE 'A' INLET WITH NEENAH R-3405 CASTING OR APPROVED EQUAL AND 70 LFT OF 12"ø RCP @ 0.60% RIM=909.84 INV. OUT (12"~S)=907.34	INSTALL TYPE 'A' INLET WITH NEENAH R-3405 CASTING OR APPROVED EQUAL AND 112 LFT OF 12"ø RCP @ 0.75% RIM=909.42 INV. IN (12"~N)=906.92 INV. OUT (12"~W)=906.92	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS PRIOR TO INSTALLING ANY STORM SEWER INFRASTRUCTURE. CONTRACTOR SHALL CORE DRILL PROPOSED INVERT INTO EXISTING STRUCTURE. EX. RIM=908.37 PROP. INV. IN (12"~E)=906.08 EX. INV. OUT (12"~W)=906.08

CHURCH SOLUTIONS

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"IT'S THE LAW"
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CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
3417 SHERMAN DR. BEECH GROVE, IN 46107 (317) 780-1555

GRADING & EROSION CONTROL PLAN
CENTENNIAL BIBLE CHURCH

JOB No.	.	DRAWN	LMC	CHECKED	TEN
DATE	AUGUST 3, 2012	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO REGISTERED NO. 10300059 STATE OF INDIANA PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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SHEET 400

EROSION CONTROL PLAN INDEX

PLAN ELEMENTS

A2 11 BY 17 INCH PLAT
The 11x17 inch Plat has been submitted to the respective Soils and Water Conservation District.

A3 PROJECT NARRATIVE
The project involves the construction of a ±12,000 sft building expansion and installation of a new drop off location with an overhead canopy. In addition, a 38 space parking facility will be constructed. The project is located within Section 1 of the Centennial Subdivision, just West of the Liberty Drive and Pawtucket Drive intersection.. Streets, curbs, parking and walks necessary for the development shall be constructed as part of the construction plans herein. A storm sewer system shall be utilized for stormwater collection of the proposed parking area. Drainage will discharge into an existing storm sewer system located on-site. Water, sanitary, telephone, cable, gas, and electric utilities shall serve the property as well. Construction is anticipated to begin in the Fall of 2012.

A4 VICINITY MAP
The Vicinity Map is located in the right half of the Erosion Control Details (this sheet).
Latitude N 40°00'37" Longitude W 86°10'15"

A5 LEGAL DESCRIPTION
The Legal Description of the project site is located in the lower right quadrant of the Erosion Control Details (this sheet).

A6 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS
All pertinent lot information is included on the plan view of the Erosion Control Plan (Sheet 400). Anticipated utilities, and structures are depicted as well.

A7 HYDROLOGIC UNIT CODE
The Hydrologic Unit Code for the represented watershed of this project is: 05120201090030

A8 STATE AND/OR FEDERAL WATER QUALITY PERMITS
No State of Federal water quality permits are required for this project.

A9 STORMWATER DISCHARGE
Stormwater discharge shall leave the site via an existing 12"Ø RCP.

A10 WETLANDS, LAKES AND WATER COURSES.
There are no potential wetland areas located within the project site, nor shall any potential wetland areas be disturbed as a result of construction.

A11 RECEIVING WATERS
The receiving water for this project is an existing detention facility within the Centennial Subdivision.

A12 POTENTIAL DISCHARGES TO GROUND WATER
There are no potential locations where stormwater may enter the groundwater.

A13 100 YEAR FLOOD PLAINS, FLOODWAYS AND FLOODWAY FRINGES
By graphic plotting only, the tract of land, to it's entirety, described hereon lies within Zone "X" (areas determined to be outside the 0.2% annual chance floodplain) as plotted by hand on the Federal Emergency Management Agency Flood Insurance Rate Map for Hamilton County, Indiana, Community Panel No. 18057C0119, panel not printed per FEMA.

A14 POST-CONSTRUCTION PEAK DISCHARGE
Qpre Max. (10 year) = 2.11 cfs
Qpost Max. (10 year) = 2.95 cfs

A15 ADJACENT LANDUSE
The adjacent landuses are labeled on the Erosion Control Plan (Sheet 400).

A16 DISTURBED AREAS
The construction limits (boundary of disturbed area) are shown on the Erosion Control Plan (Sheet 400).

A17 EXISTING VEGETATIVE COVER
The existing site contains an existing church facility and associated parking lot.

A18 SOILS MAP AND DESCRIPTIONS
The soils map and all pertinent soil type information are located on the upper right quadrant of the Erosion Control Details (this sheet).

A19 PROPOSED STORMWATER SYSTEMS
The proposed stormwater system sizes and dimensions are labeled on the Erosion Control Plan (Sheet 400).

A20 OFF-SITE CONSTRUCTION ACTIVITIES
No offsite activities will take place within this project.

A21 SOIL STOCKPILES, BORROW/DISPOSAL AREAS
Topsoil shall be stockpiled in a convenient location (as determined by the owner and/or contractor) within the construction site as shown on the Erosion Control Plan (Sheet 400).

A22 EXISTING SITE TOPOGRAPHY
Existing one-foot contours are shown on the Erosion Control Plan (Sheet 400).

A23 PROPOSED SITE TOPOGRAPHY
Proposed one-foot contours are shown on the Erosion Control Plan (Sheet 400).

STORMWATER POLLUTION PREVENTION - DURING CONSTRUCTION

B1 POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES
There is a potential for pollutants associated with construction machinery including diesel fuel, hydraulic fluid, engine oils and lubricants, antifreeze and other petroleum products. It is unavoidable for a small amount of these pollutants to contaminate soil in the grading and construction of the site. Sediment pollution from site disturbing activities shall be remedied by Erosion Control measures (see following sections).

B2 SEQUENCE OF STORMWATER QUALITY MEASURE IMPLEMENTATION
The Construction Sequence & Schedule of Erosion Control Measure Implementation is located in the upper half on the Erosion Control Details (this sheet).

B3 CONSTRUCTION ENTRANCE
The construction entrance shall utilize the existing parking facilities. Routine sweeping shall be performed by the contractor.

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS
Sediment Control measures for Sheet flow areas are shown on the Erosion Control Plan (Sheet 400). Specifications and details are located on the Erosion Control Details (this sheet).

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS
Sediment Control measures for concentrated flow areas are shown on the Erosion Control Plan (Sheet 400). Specifications and details are located on the Erosion Control Details (this sheet).

B6 STORM SEWER INLET PROTECTION MEASURES
Storm sewer inlet protection measures are shown on the Erosion Control Plan (Sheet 400). Specifications and details are located on the Erosion Control Details (this sheet).

B7 RUNOFF CONTROL MEASURES
Runoff control measures are shown on the Erosion Control Plan (Sheets 400). Specifications and details are located on the Erosion Control Details (this sheet).

B8 STORMWATER OUTLET PROTECTION MEASURES
No outlet protection measures are required for this project.

B9 GRADE STABILIZATION STRUCTURES
No grade stabilization structures are required for this project.

B10 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
The existing detention facility shall provide all water quality and quantity treatment.

B11 TEMPORARY SURFACE STABILIZATION
Temporary surface stabilization methods are shown on the Erosion Control Plan (Sheet 400) and detailed on the Erosion Control Details (this sheet).

B12 PERMANENT SURFACE STABILIZATION
Permanent surface stabilization methods are shown on the Erosion Control Plan (Sheet 400) and detailed on the Erosion Control Details (this sheet).

B13 MATERIAL HANDLING AND SPILL PREVENTION
Spill prevention shall be accomplished by utilizing spillguards for equipment fueling and servicing operations. Spillguards shall be 3'x3'x6" and shall be constructed of a material resistant petroleum products (including diesel fuel and oil). On-site fuel storage tanks shall have emergency storage capacity directly below the tank in case of rupture. Any hazardous material spillage shall be collected and/or cleaned immediately by a trained individual and disposed of in accordance with all federal, state and local regulations.
Indiana Department of Enviromental Management (317) 233-7745
Westfield Fire Department (317) 804-3303

B14 MONITORING AND MAINTENANCE GUIDELINES
Monitoring and Maintenance Guidelines are located in the middle on the Erosion Control Details (this sheet).

B15 EROSION & SEDIMENT CONTROL MEASURES FOR INDIVIDUAL BUILDING LOTS
Not applicable, as this is a building and parking lot expansion project.

MONITORING AND MAINTENANCE GUIDELINES

TOPSOIL:
A. Inspect weekly until vegetation is established and log condition per DNR.

TEMPORARY AND PERMANENT SEEDING:
A. Inspect periodically, especially after storm events, until the stand is successfully established.
B. Plan to add fertilizer the following growing season according to soil test recommendations.
C. Repair damaged, bare, or sparse areas by filling any gullies, re-fertilizing, over- or re-seeding, and mulching.
D. If plant cover is sparse or patchy, review the plant materials chosen, soil fertility, moisture condition, and mulching; repair the affected area either by over-seeding or by re-seeding and mulching after re-preparing the seed bed.
E. If vegetation fails to grow, consider soil testing to determine acidity or nutrient deficiency problems.
F. If additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations.
G. Reference the latest INDOT Specification.

MULCHING:
A. Inspect after storm events to check for movement of mulch or for erosion.
B. If washout, breakage, or erosion is present, repair the surface, then re-seed, re-mulch, and , if applicable, install new netting.
C. Continue inspections until vegetation is firmly established.
D. Reference the latest INDOT Specification.

SILT FENCE:
A. Inspect the silt fence periodically and after each storm event.
B. If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.
C. Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.
D. Take care to avoid undermining the fence during clean out.
E. After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize.

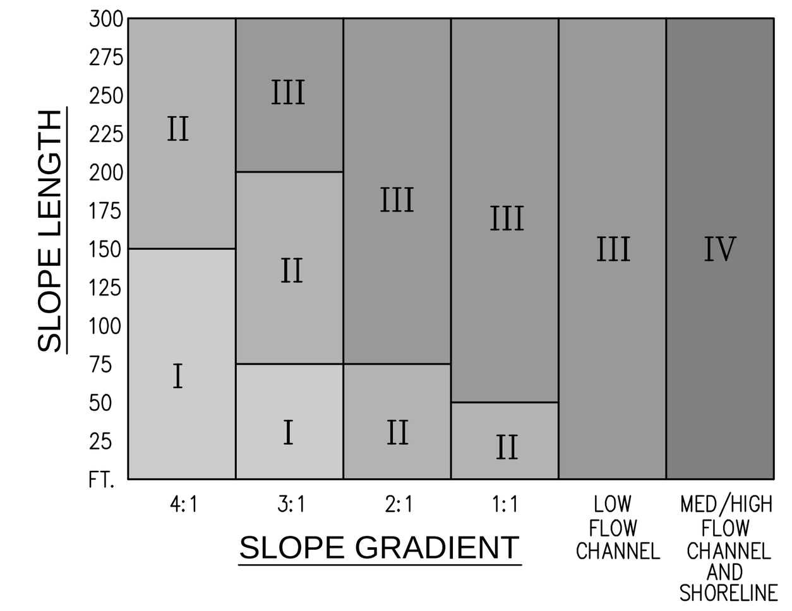
SAND BAG INLET PROTECTION:
A. SILT SACK INLET PROTECTION:
A. Inspect the silt sack inlet protection periodically and after each ½" storm event.
B. Remove deposited sediment when it reaches half the height of the filter at the lowest point.
C. Remove the Silt Sack Inlet Protection and sediment deposits after contributing drainage area is stabilized.

CONSTRUCTION SEQUENCE & SCHEDULE OF EROSION CONTROL IMPLEMENTATION

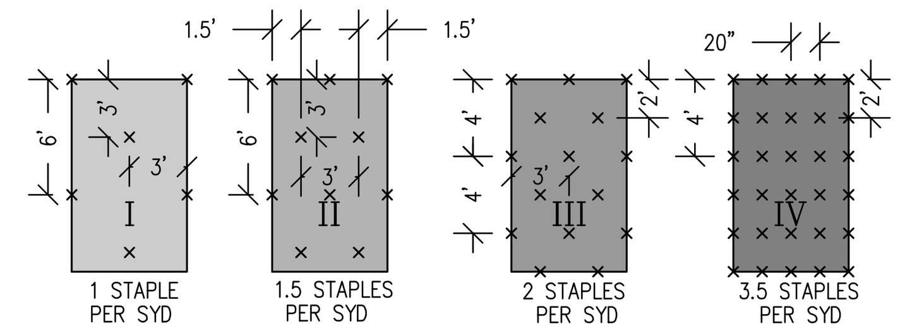
1. Silt fence shall be placed around existing structures and in ditches as shown in these plans before any land disturbing activities are started.
2. Schedule a pre-construction meeting with Hamilton County SWCD and the City of Westfield 48 hours prior to start of earthwork.
3. Install erosion control measures as shown in the plans at the beginning of the project.
4. Strip topsoil and stockpile as shown.
5. Rough grade site. Disturbed areas should be seeded immediately following rough grading. Areas that will not be disturbed again should be permanently seeded. No unvegetated areas should be exposed for more than seven days.
6. Place drainage structures. Erosion control measures shall be placed around proposed structures as soon as they are in place and until vegetation is secure.
7. Final grade site. All erosion control blankets shall be installed per manufacturers recommendations as soon as final grading is complete.
8. Final paving operations. Temporary erosion control measures shall remain in place until vegetation is secure.

GENERAL EROSION CONTROL REQUIREMENTS FOR COMPLIANCE WITH IDEM GENERAL PERMIT RULES FOR STORM WATER RUNOFF FROM CONSTRUCTION SITES

1. All Erosion Control practices shall be in accordance with the latest edition of the INDIANA STORM WATER QUALITY MANUAL.
2. The Erosion Control measures included in this plan shall be installed prior to initial land disturbance activities or as soon as practical. Sediment shall be prevented from discharging from the project site by installing and maintaining silt fence, etc., as shown on this plan. If shown on this plan, energy-dissipation devices or Erosion Control at the outfall of the storm sewer system shall be installed at the time of the construction of the outfall.
3. All on-site storm drain inlets shall be protected against sedimentation with silt sack inlet filters, filter fabric, or equivalent barriers as shown on this plan.
4. Except as prevented by inclement weather conditions or other circumstances beyond the control of the contractor/developer appropriate Erosion Control practices will be initiated within (7) seven days of the last land disturbing activity at the site. The site shall be stabilized by seeding, sodding, mulching, covering, or by other equivalent Erosion Control measures.
5. This Erosion Control plan shall be implemented on all disturbed areas within the construction site. All measures involving Erosion Control practices shall be installed under the guidance of a qualified person experienced in Erosion Control and following the plans and specifications included herein.
6. During the period of construction activity, all sediment basins and other Erosion Control measures shall be maintained by the contractor. At the completion of construction, the contractor shall coordinate the transfer of required maintenance responsibilities with the owner.
7. Public or private roadways shall be kept cleared of accumulated sediment. Bulk clearing of accumulated sediment shall not include flushing the area with water. Cleared sediment shall be returned to the point of likely origin or other suitable location.
8. The contractor shall control wastes, garbage, debris, wastewater, and other substances on the site in such a way that they shall not be transported from the site by the action of winds, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building materials appropriate to the nature of the waste or material is required.
9. Additional Erosion Control measures may be required by state or county agencies.



SLOPE GRADIENT



EROSION CONTROL BLANKET
STAPLE PATTERN DETAIL

PERMANENT SEED MIXTURES

SPECIES	SEEDING RATE LBS/ACRE	SEEDING RATE LBS/1000 SFT.	SUITABLE pH	SITE SUITABILITY DROUGHTY	SITE SUITABILITY DRAINED	SITE SUITABILITY WET
LEVEL AND SLOPING, OPEN AREAS						
TALL FESCUE	35	8	5.5 – 8.3	2	1	2
TALL FESCUE RED CLOVER **	25 5	6 12	5.5 – 8.3		1	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	15 15	4 4	5.5 – 7.5	2	1	
STEEP BANKS AND CUTS						
TALL FESCUE KENTUCKY BLUEGRASS	15 25	4 6	5.8 – 7.5	2	1	2
TALL FESCUE EMERALD CROWNVETCH **	35 10	8 25	5.5 – 8.3	2	1	
LAWNS AND HIGH MAINTENANCE AREAS						
KENTUCKY BLUEGRASS CREEPING RED FESCUE	40 40	9 9	5.8 – 7.5	2	1	
PERENNIAL RYEGRASS (TURF TYPE)	170	24	5.0 – 7.5		1	
TALL FESCUE	170	4	5.5 – 8.3	2	1	2

1-PREFERRED 2-WILL TOLERATE ** - INOCULATE WITH SPECIFIC INOCULATES

	SOIL CONDITION WET	SOIL CONDITION NORM	SOIL CONDITION DRY	SHADE TOLERANCE	CLOSE MOWING TO 2-3 1/2 INCHES	TRAMPING TOLERANCE	FERTILITY NEEDS	WINTER HARDINESS	FLOODING TOLERANCE (DAYS)	MATURE HEIGHT (INCHES)	EMERGENCE TIME (DAYS)	SALT TOLERANCE GEN.	SALT TOLERANCE SOIL	SALT TOLERANCE SPRAY
CREEPING RED FESCUE FESTUCA RUBRA	2	1	2	1	1	1	MED.	1	20–25	12–18	7–21			S
KENTUCKY BLUEGRASS POA PROTINSIS	2	1	2	1	1	1	MED.	1	25–35	12–18	10–20			MT
TALL FESCUE FESTUCA L ARUNDINACEA	2	1	1	1	1	1	LOW	1	24–35	24–36	5–14		T	
PERENNIAL RYEGRASS LOLIUM PERENNE	2	1	2	–	1	2	MED–HIGH	2	15–20	12–18	5–10		MT	
CROWNVETCH CORANILLA VARIA	–	1	1	2	–	–	LOW	1	5–10	24	14–21	T		
RED CLOVER TRIFOLIUM PRATENSE	–	1	–	2	–	–	MED.	1	7–10	18	5–10	S	S	

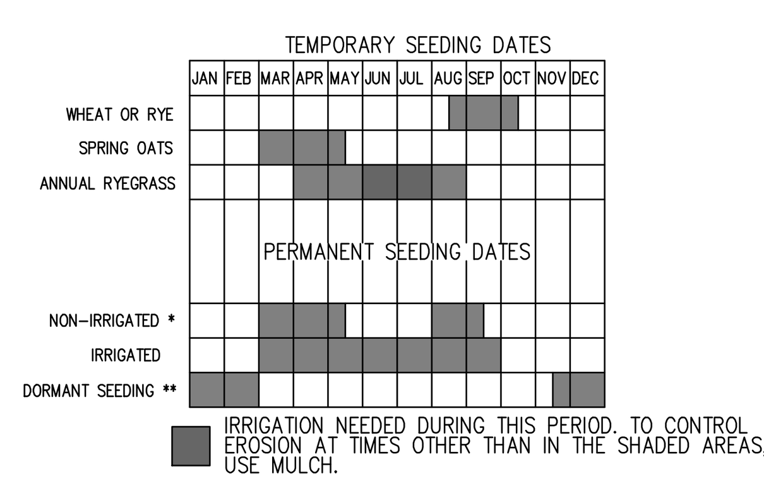
RANKING
1 GOOD
2 MEDIUM
– NOT TOLERANT

SALT TOLERANCE (TO BOTH SOIL SALTS AND SPRAY)
T – TOLERANCE
MT – MEDIUM TOLERANCE
S – SLIGHT TOLERANCE

SEEDBED PREPARATION
APPLY LIME TO RAISE THE pH TO THE LEVEL NEEDED FOR SPECIES BEING SEEDED. APPLY 23 LBS. OF 12-12-12 ANALYSIS FERTILIZER (OR EQUIVALENT) PER 1,000 SQ. FT. (APPROXIMATELY 1,000 LBS. PER ACRE) OR FERTILIZE ACCORDING TO TEST. APPLICATION OF 150 LBS. OF AMMONIUM NITRATE ON AREAS LOW IN ORGANIC MATTER AND FERTILITY WILL GREATLY ENHANCE VEGETATIVE GROWTH. WORK THE FERTILIZER AND LIME INTO THE SOIL A DEPTH OF 2 TO 3 INCHES WITH A HARROW, DISK, OR RAKE OPERATED ACROSS THE SLOPE AS MUCH AS POSSIBLE.
FERTILIZER AND LIME SHALL MEET REQUIREMENTS OF INDOT STANDARD SPECIFICATIONS 1995.

SEEDING
SELECT A SEED MIXTURE BASED ON PROJECTED USE OF THE AREA WHILE CONSIDERING BEST SEEDING DATES.

TEMPORARY SEEDING DATES



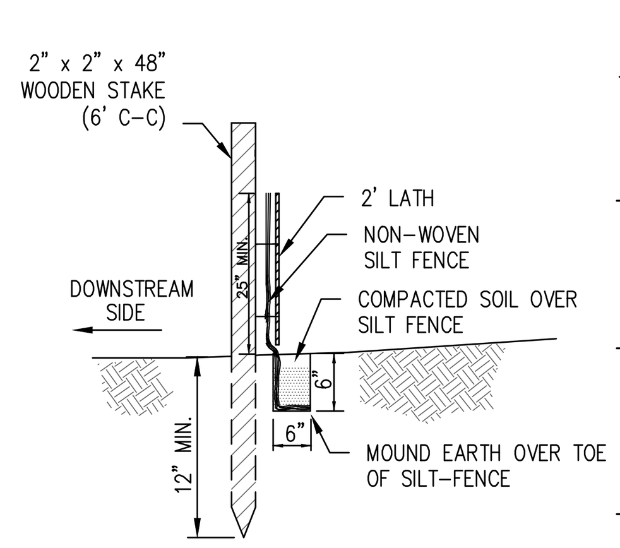
* -LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED.

** -INCREASE SEEDING APPLICATION BY 50%.

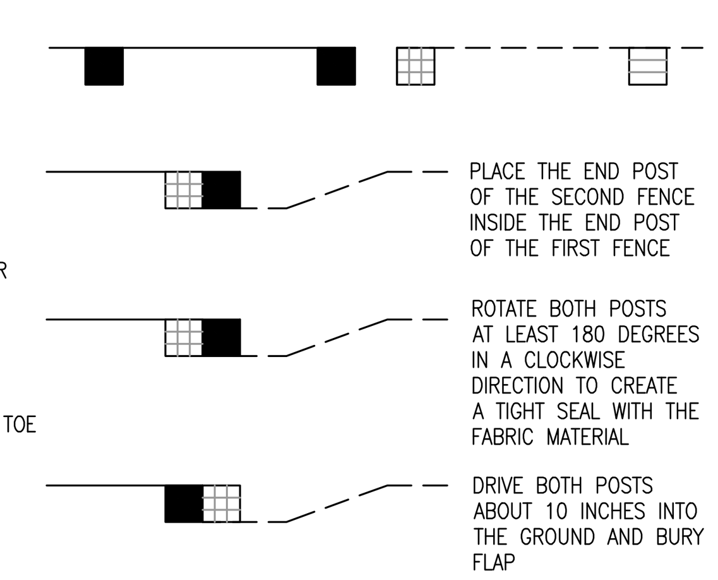
TEMPORARY SEEDINGS

KIND OF SEED	PER 1,000 SQ. FT.	PER ACRE	REMARKS
WHEAT OR RYE	3.5 LBS.	2 BU.	COVER SEED 1" TO 1 1/2" DEEP
SPRING OATS	2.3 LBS.	3 BU.	COVER SEED 1" DEEP
ANNUAL RYEGRASS	1.0 LBS.	40 LBS.	COVER SEED 1/4" DEEP *

* NOT NECESSARY WHERE MULCH IS APPLIED.



SILT FENCE DETAIL
NOT TO SCALE



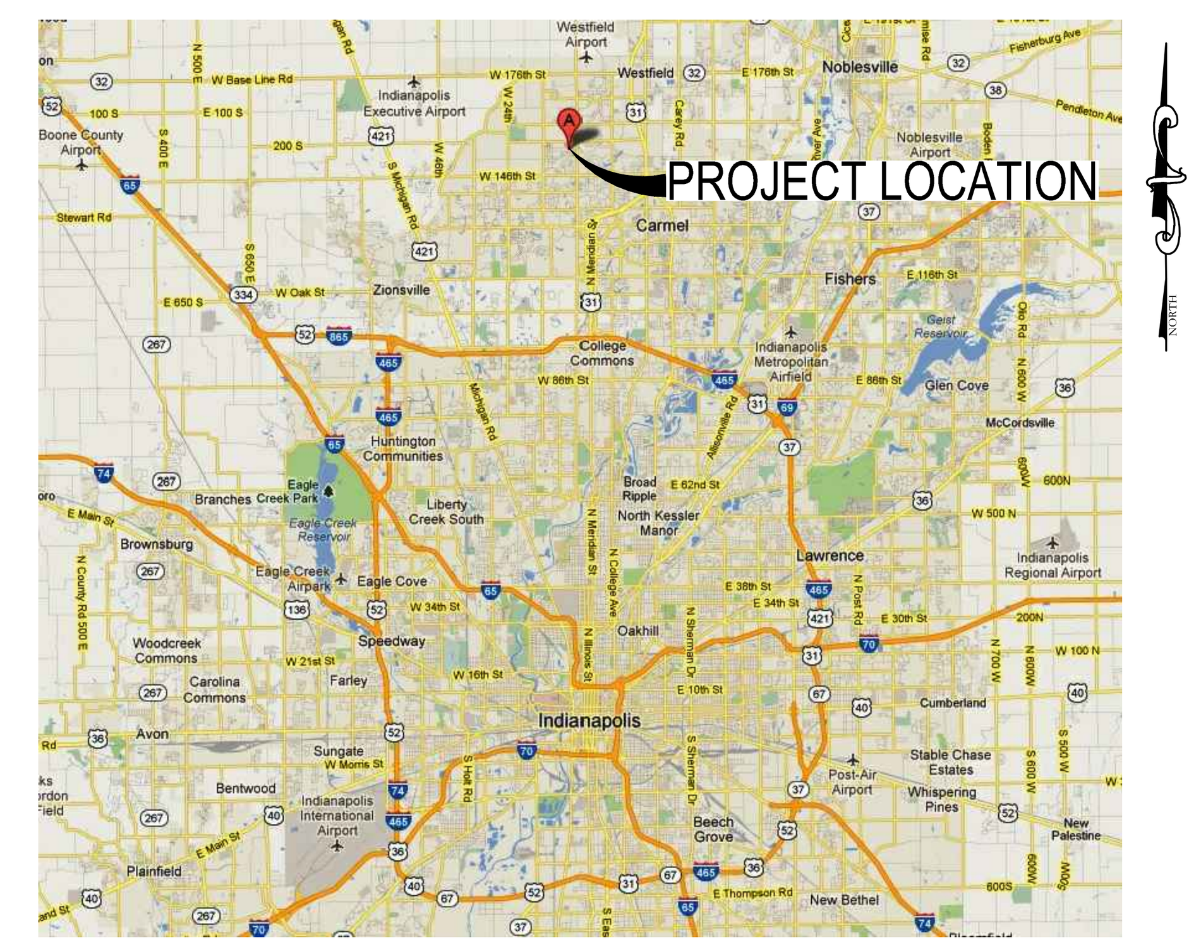
ATTACHING TWO SILT FENCES

SOIL MAP AND DESCRIPTION
NOT TO SCALE

Hamilton County, Indiana (IN057)

BROOKSTON SILTY CLAY LOAM (BR)
This nearly level soil is in depressions, on flats, and in narrow drainageways between better drained soils on broad, undulating plains.
Slopes are 0 to 2 percent. Runoff is very slow. Wetness is the main limitation.
Soil has limitations for building sites and must be artificially drained and protected from flooding.

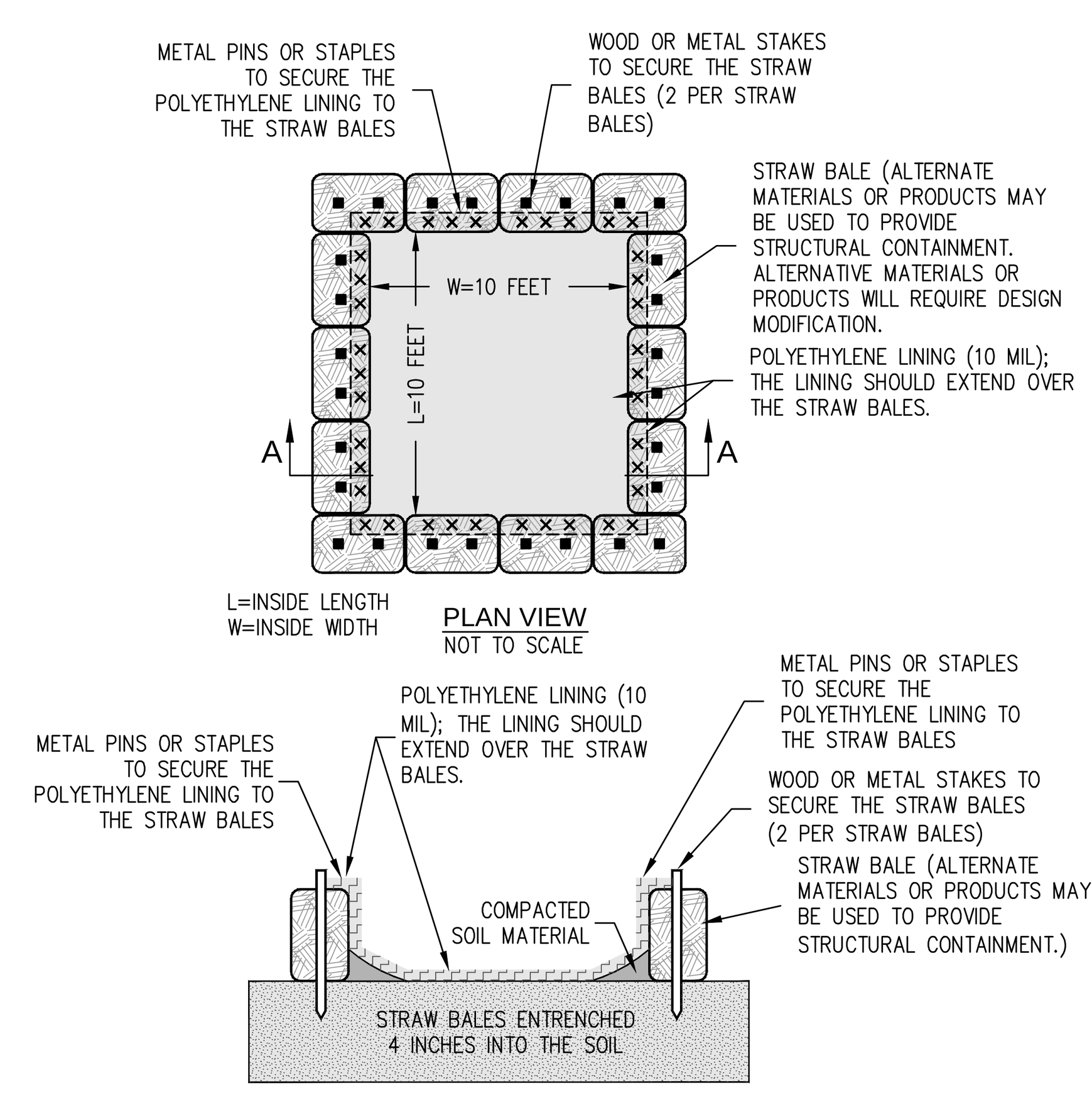
CROSBY SILT LOAM (CrA)
This nearly level soil is on broad plains, on ridge tops in rolling areas, or in low drainageways.
Slopes are 0 to 2 percent. Runoff is slow. Wetness is the main limitation.
Soil has limitations for building sites and must be artificially drained and protected from flooding.



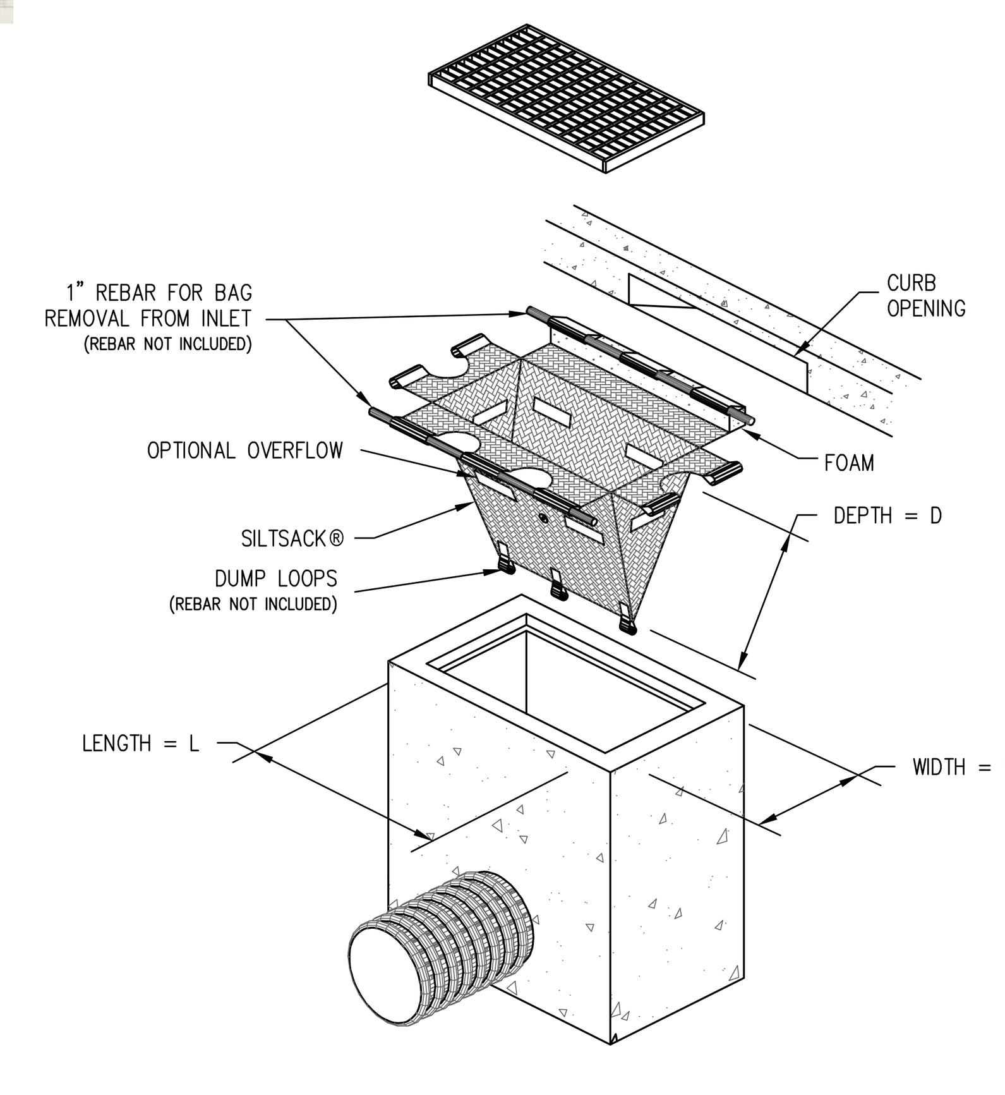
VICINITY MAP
NOT TO SCALE

LEGAL DESCRIPTION

INSTRUMENT No. 200300112866
BLOCK E IN CENTENNIAL, SECTION 1, A SUBDIVISION LOCATED IN HAMILTON COUNTY, INDIANA ON THE PLAT RECORDED AS INSTRUMENT NUMBER 9909935797 IN THE OFFICE OF THE RECORDER OF HAMILTON COUNTY DATED JUNE 5, 1999.



CONCRETE WASHOUT DETAIL (B)
NOT TO SCALE



SILTSACK INLET PROTECTION DETAIL (A)
NOT TO SCALE

ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE OR COUNTY OFFICIALS

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

EROSION CONTROL DETAILS
CENTENNIAL BIBLE CHURCH

JOB No.	.
DATE	AUGUST 3, 2012
DRAWN	LMC
CHECKED	TEN
DESIGNED	DJM
APPR.	GJI
SHEET	401

GREGORY J. ILKO
REGISTERED
NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
1				
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SHEET 401

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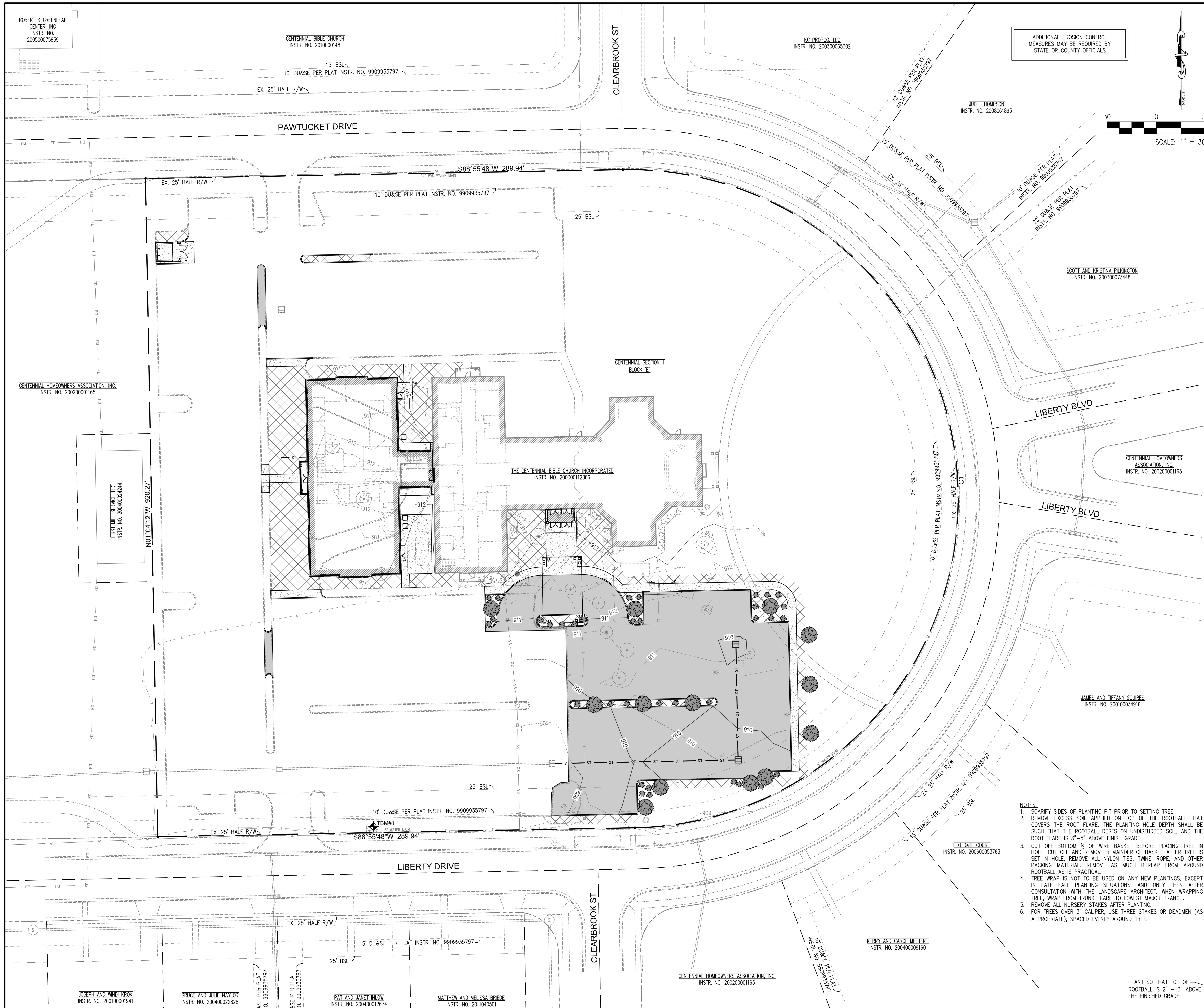


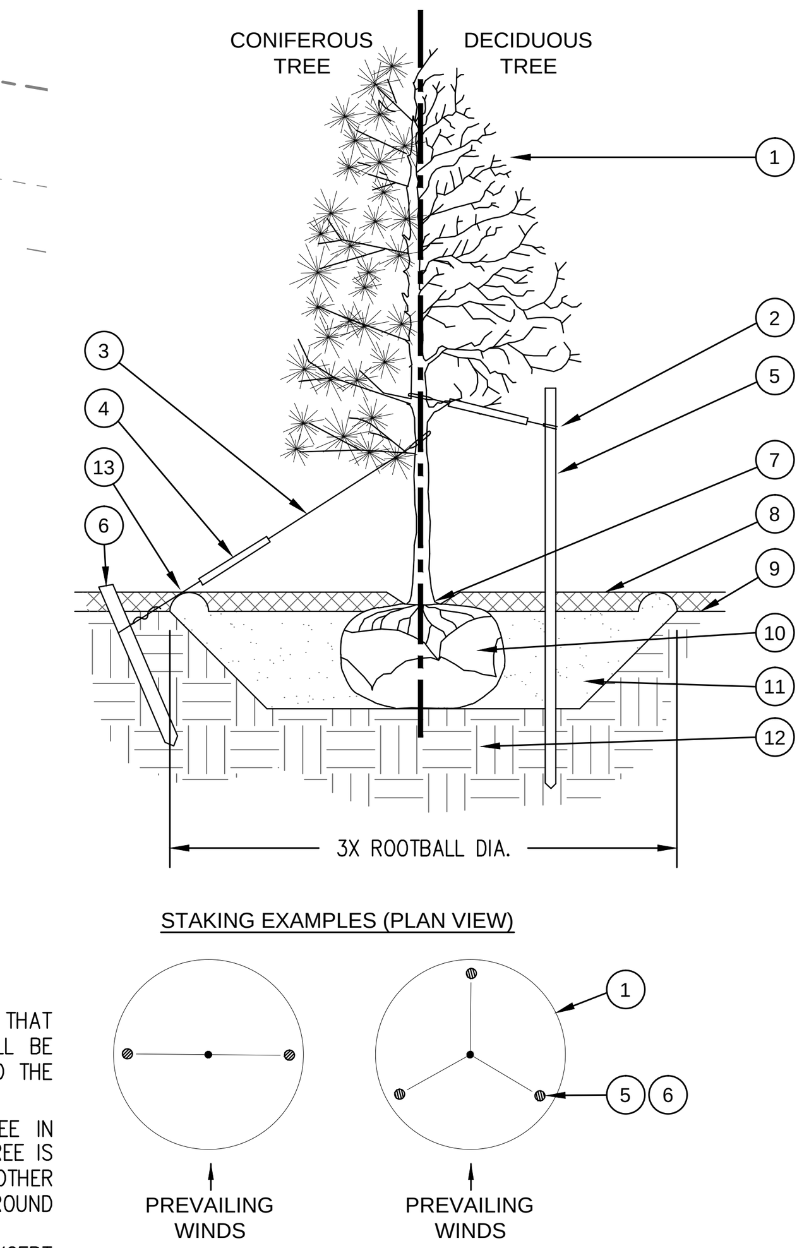
LANDSCAPE LEGEND

RED MAPLE, ACER RUBRUM "RED SUNSET" (2.0" CALIPER (MIN.) AND 1.5 SYD OF LANDSCAPE MULCH PER TREE)

ANTHONY WATERER SPIREA, SPIREA X BOMALDA (18" MIN. HEIGHT AT PLANTING)

LANDSCAPE NOTES

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN). BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +/-0.1' OF FINISH GRADE. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST.
2. THE LANDSCAPE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS SHOWN ON GRADING PLANS, AND CONSTRUCT AND MAINTAIN SLOPES AS RECOMMENDED BY THE GEOTECHINCAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHINCAL REPORT, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
3. CONTRACTOR SHALL ENSURE THAT THE GRADE IN SOD AREAS SHALL BE 1" BELOW FINISH GRADE BEFORE INSTALLING SOIL AMENDMENTS, AND 2" BELOW FINISH GRADE IN SHRUB AREAS BEFORE INSTALLING SOIL AMENDMENTS. MULCH COVER WITHIN 6" OF CONCRETE WALKS AND CURBS SHALL NOT PROTRUDE ABOVE THE FINISH SURFACE OF THE WALKS AND CURBS. MULCH COVER WITHIN 12" OF WALLS SHALL BE AT LEAST 3" LOWER THAN THE TOP OF WALL.
4. INSTALL 5 OUNCE, WOVEN, NEEDLE-PUNCHED POLYPROPYLENE FABRIC UNDER ALL MULCHED AREAS AND INDIVIDUAL TREE RINGS.
5. INSTALL SHREDDED HARDWOOD MULCH TOPDRESSING IN ALL PLANTING BEDS (2" DEPTH) AND ALL TREE RINGS (3" DEPTH). DO NOT INSTALL MULCH WITHIN 6" OF TREE ROOT FLARE.
6. HYDROSEED ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOD).
7. ALL PLANT LOCATIONS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE VERIFIED WITH THE LANDSCAPE ARCHITECT OR DESIGNER PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL REQUIREMENTS OF THE PERMITTING AUTHORITY ARE MET (I.E., MINIMUM PLANT QUANTITIES, PLANTING METHODS, TREE PROTECTION METHODS, ETC.).
8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR DETERMINING PLANT QUANTITIES; PLANT QUANTITIES SHOWN ON LEGENDS AND CALLOUTS ARE FOR GENERAL INFORMATION ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE PLANT LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN (FOR INDIVIDUAL SYMBOLS) OR CALLOUT (FOR GROUNDCOVER PATTERNS) SHALL TAKE PRECEDENCE.
9. PLANTS MAY BE INSPECTED AND APPROVED OR REJECTED ON THE JOBSITE BY THE OWNER OR OWNER'S REPRESENTATIVE.
10. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES,REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
11. SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.
12. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
    A. THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
    B. ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
    C. SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1 1/2 INCHES BEFORE FIRST MOWING. HYDROSEEDED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESODDED OR RESEEDED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.



1. TREE CANOPY.
2. NYLON TREE STRAPS AT ENDS OF WIRES. SECURE TO STAKE OR DEADMAN WITH NAILS.
3. 12 GAUGE GALVANIZED WIRE. SECURE TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.
4. 24" X 3/4" P.V.C. MARKERS OVER WIRES.
5. PRESSURE-TREATED WOOD STAKE, 2" DIA. EXTEND STAKES 12" MIN. INTO UNDISTURBED SOIL.
6. PRESSURE-TREATED WOOD DEADMAN, TWO PER TREE (MIN.). BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.
7. TRUNK FLARE.
8. MULCH, TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 6" OF TRUNK.
9. FINISH GRADE.
10. ROOT BALL.
11. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
12. UNDISTURBED NATIVE SOIL.
13. 4" HIGH EARTHEN WATERING BASIN.

TREE PLANTING

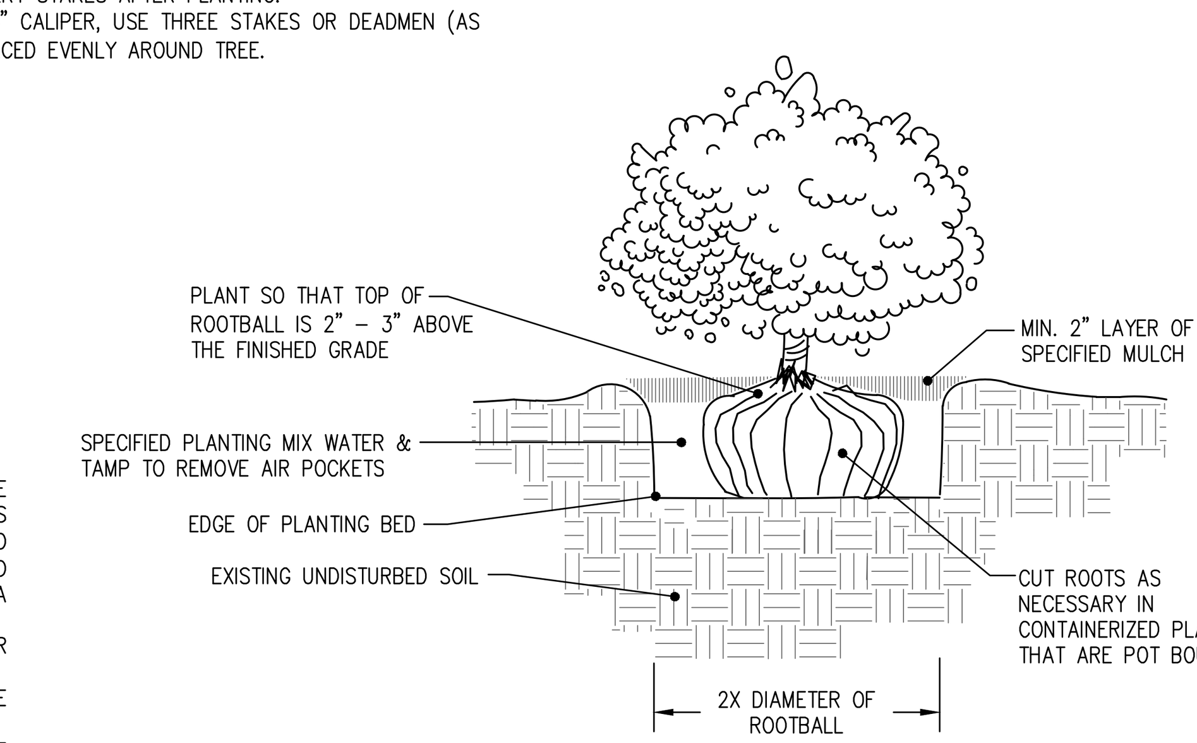
NOT TO SCALE

NOTES:

1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 3"-5" ABOVE FINISH GRADE.
3. CUT OFF BOTTOM ⅓ OF WIRE BASKET BEFORE PLACING TREE IN HOLE, CUT OFF AND REMOVE REMAINDER OF BASKET AFTER TREE IS SET IN HOLE, REMOVE ALL NYLON TIES, TWINE, ROPE, AND OTHER PACKING MATERIAL. REMOVE AS MUCH BURLAP FROM AROUND ROOTBALL AS IS PRACTICAL.
4. TREE WRAP IS NOT TO BE USED ON ANY NEW PLANTINGS, EXCEPT IN LATE FALL PLANTING SITUATIONS, AND ONLY THEN AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT. WHEN WRAPPING TREE, WRAP FROM TRUNK FLARE TO LOWEST MAJOR BRANCH.
5. REMOVE ALL NURSERY STAKES AFTER PLANTING.
6. FOR TREES OVER 3" CALIPER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.

SHRUB AND GROUNDCOVER PLANTING

1. UPON APPROVAL OF THE GRADE LEFT BY THE GENERAL CONTRACTOR, THE LANDSCAPE CONTRACTOR WILL ROTOTILL THE PROPOSED BED LOCATIONS (BEFORE ADDING THE IMPORTED SOIL). A FOUR INCH DEPTH OF THE SPECIFIED PLANTING MIX WILL THEN BE EVENLY SPREAD OVER THE DESIGNATED BED AREA. THE PLANTING BED WILL THEN BE ROTOTILLED AGAIN, AND A PRE-EMERENCE AND STARTER FERTILIZER WILL BE APPLIED.
2. THE PLANTING BED WILL THEN BE HAND RAKED SMOOTH AND CROWNED FOR PROPER DRAINAGE.
3. DIG THE HOLD TWICE AS WIDE AS THE PLANT'S ROOTBALL. INSTALL THE PLANT IN THE HOLE. BACKFILL AROUND THE PLANT.
4. INSTALL THE WEED BARRIER CLOTH, OVERLAPPING IT AT THE ENDS. UTILIZE STEEL STAPLES TO KEEP THE WEED BARRIER CLOTH IN PLACE.
5. A TWO INCH DEPTH OF MULCH WILL THEN BE INSTALLED AS A TOP DRESSING, COVERING THE ENTIRE PLANTING AREA.



SHRUB/GROUNDCOVER PLANTING DETAIL

NOT TO SCALE

T&W CHURCH SOLUTIONS

HOLEY MOLEY SAYS
"DON'T DIG BLIND"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IS-69-1991. IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

LANDSCAPE PLAN

CENTENNIAL BIBLE CHURCH

JOB No.	.	DRAWN	LMC	CHECKED	TEN
DATE	AUGUST 3, 2012	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO
REGISTERED NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

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SHEET 500

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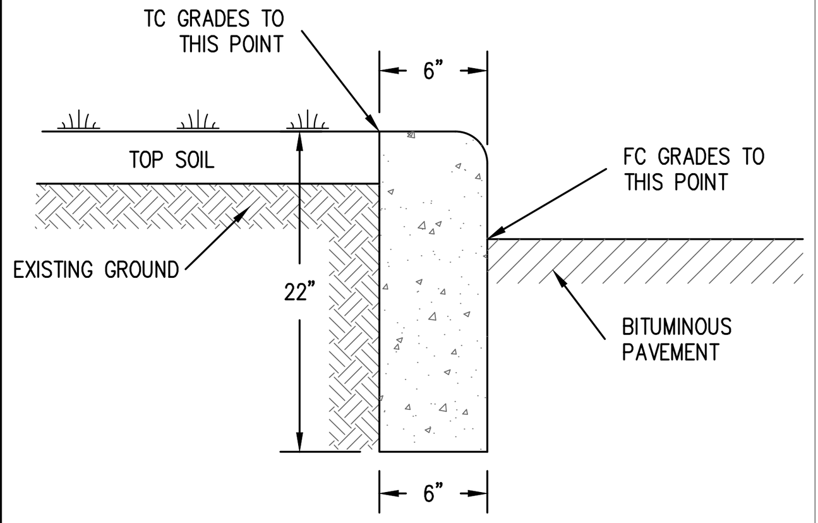
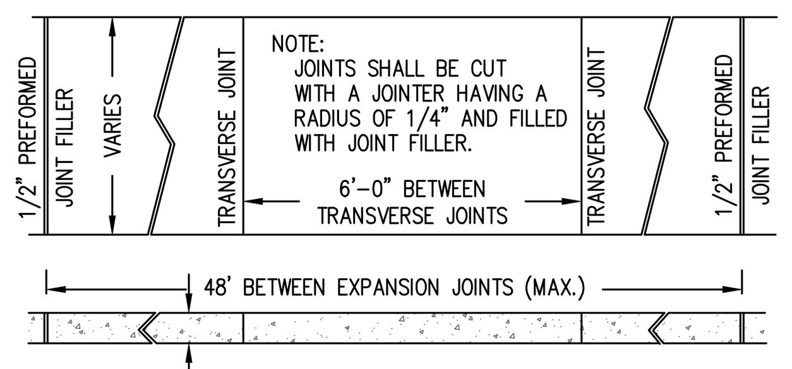
FILENAME : 500 LANDSCAPE.dwg
DATE/USER : 8/1/2012 4:47 PM / Lisa Cox



STRAIGHT CONCRETE CURB (C)
NOT TO SCALE



CONCRETE SIDEWALK (D)
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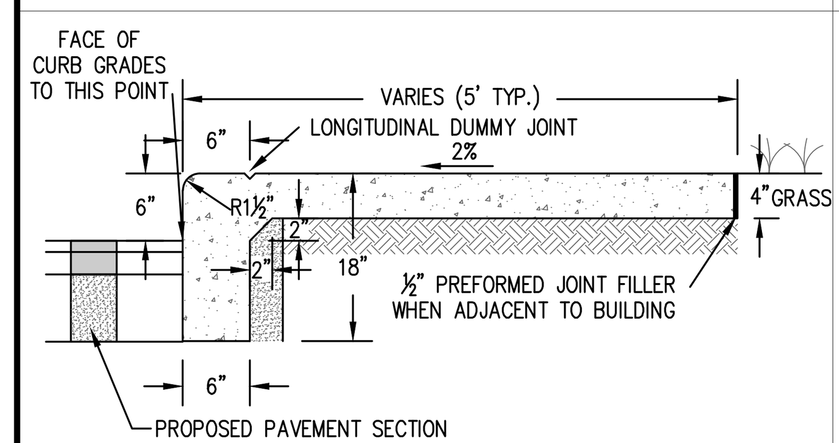

MONOLITHIC CURB AND SIDEWALK (D1)
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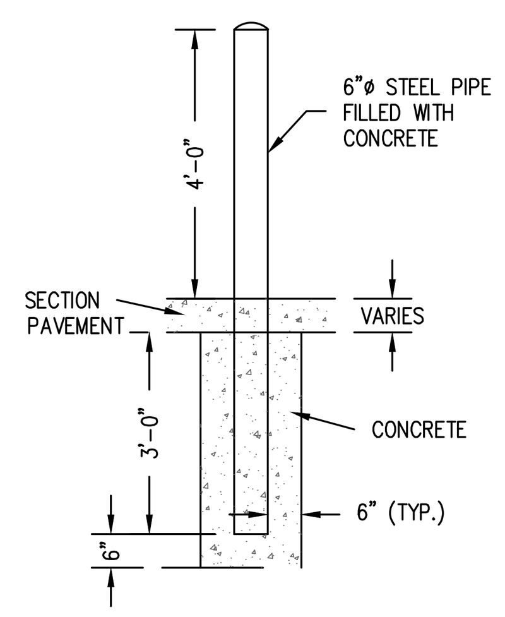
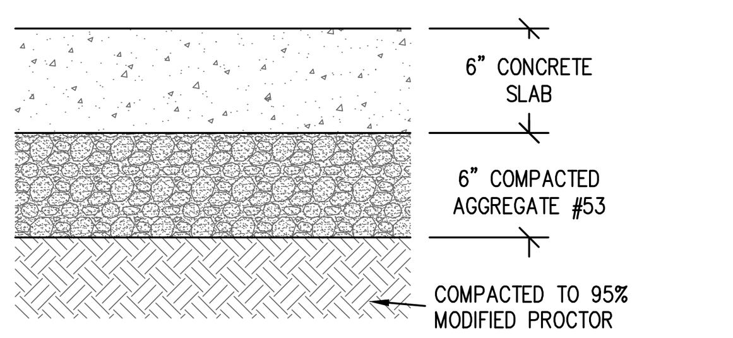


PIPE BOLLARD DETAIL
NOT TO SCALE



TYPICAL CONCRETE PAVEMENT SECTION (G)
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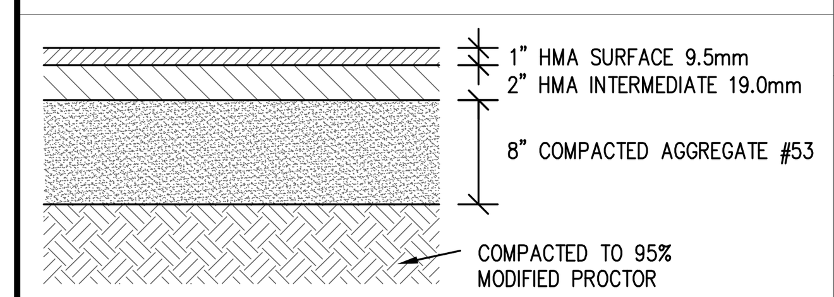
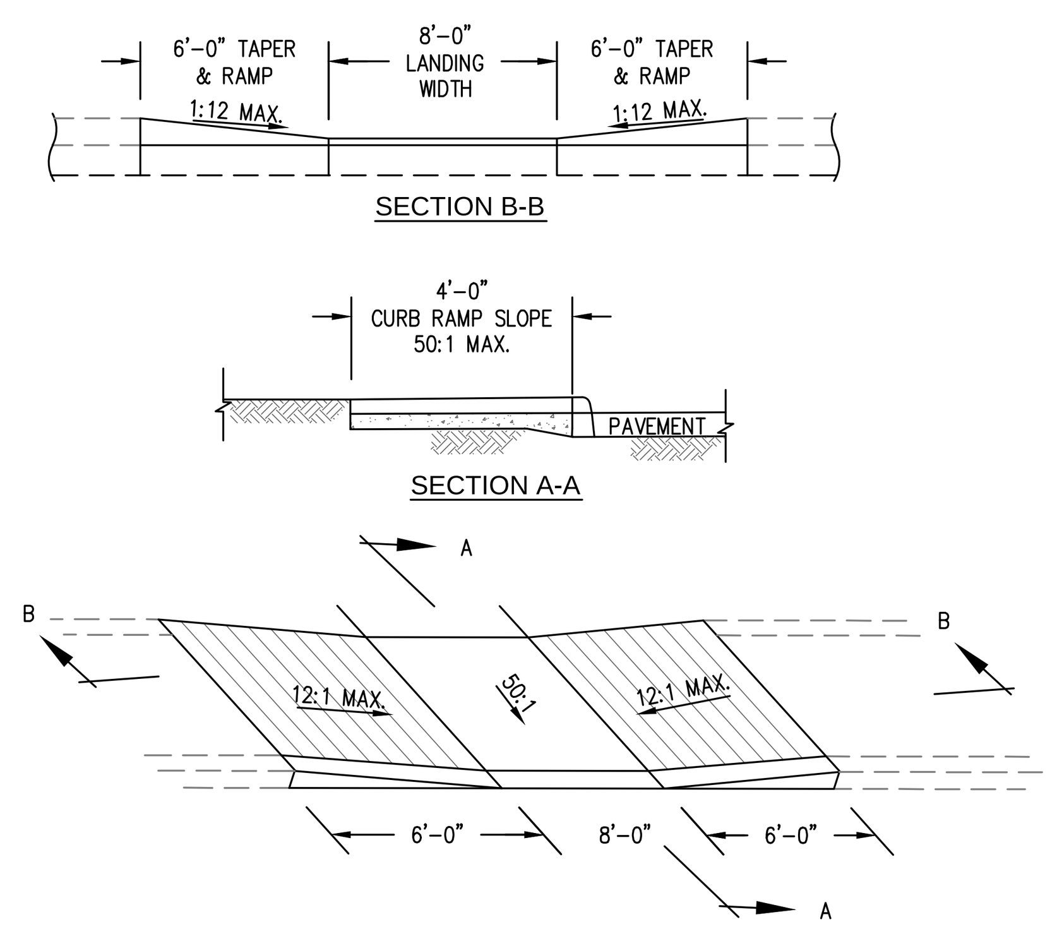
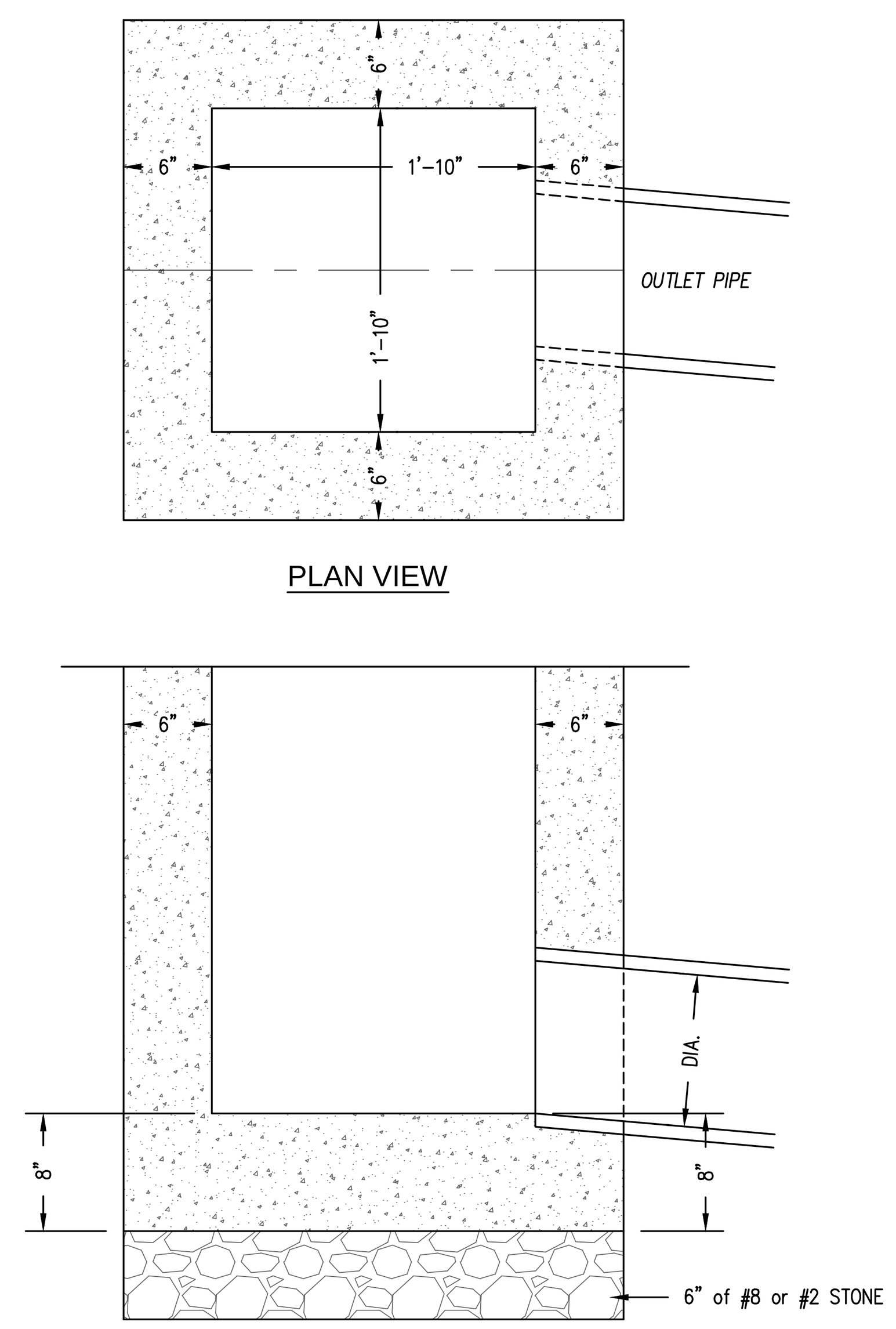


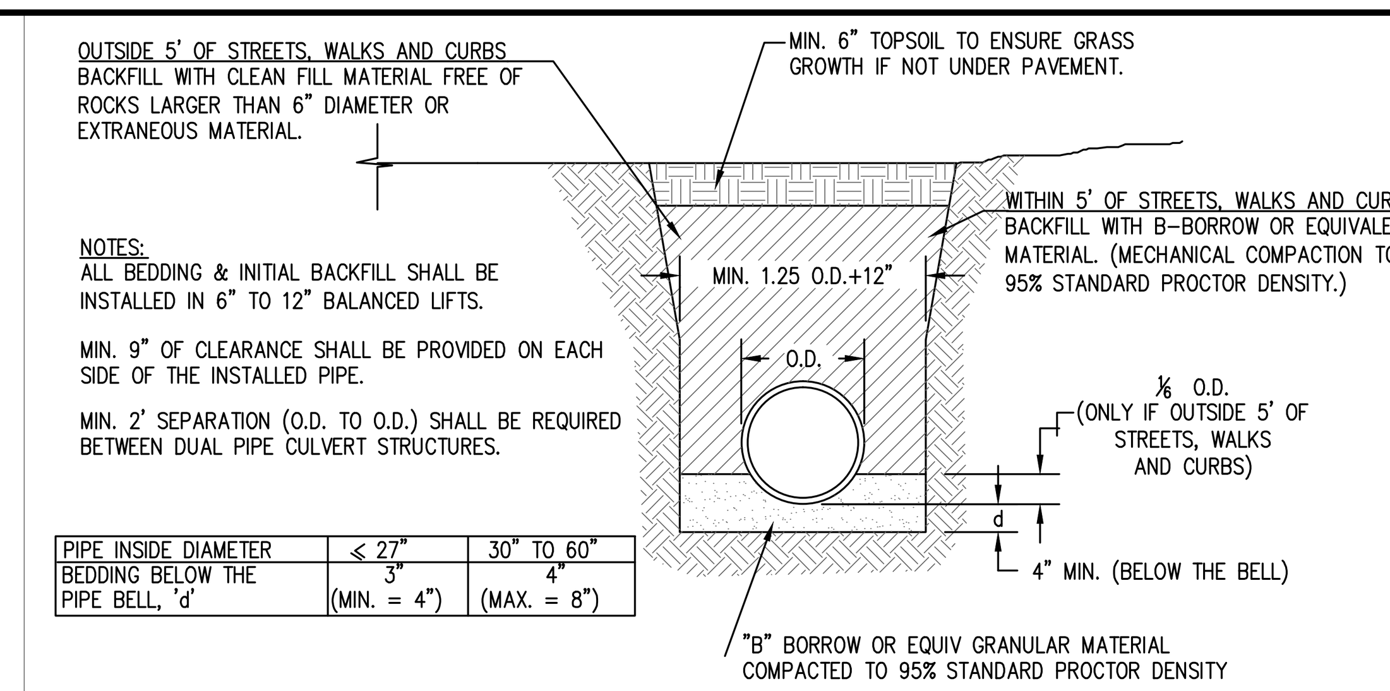
TYPICAL ASPHALT PAVEMENT SECTION (K)
NOT TO SCALE



HANDICAP RAMP (F)
NOT TO SCALE

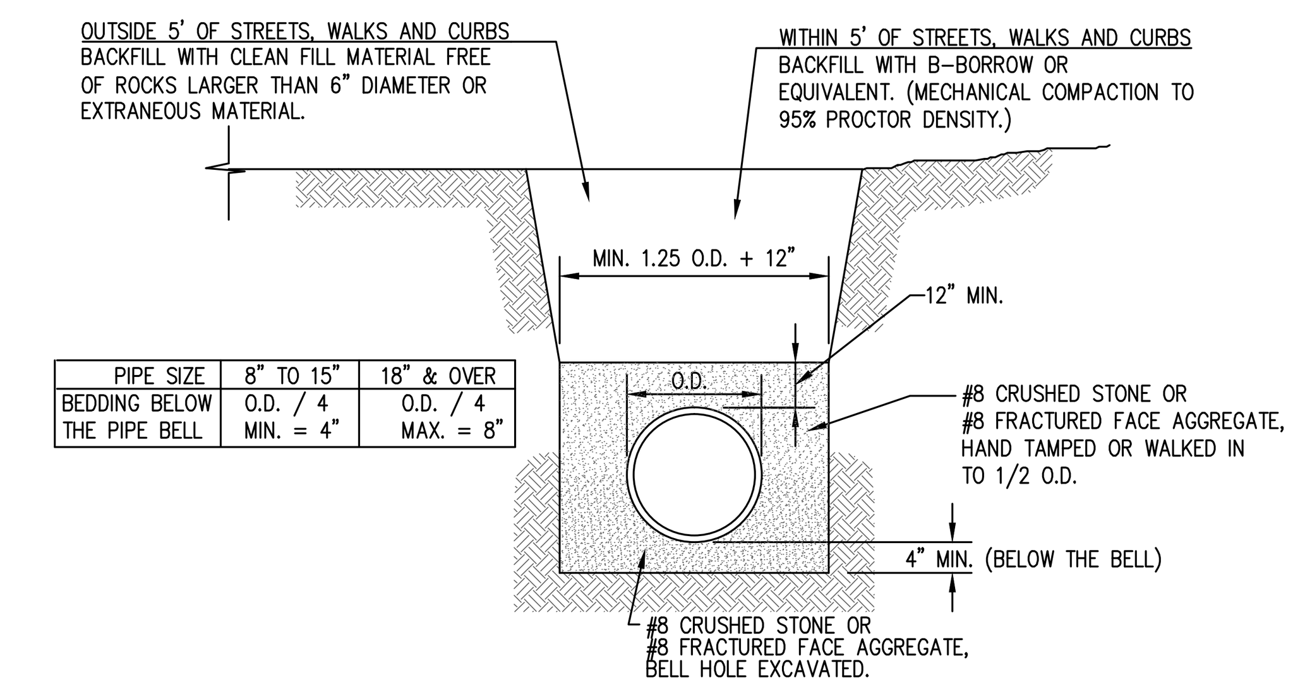


INLET TYPE 'A'
NOT TO SCALE



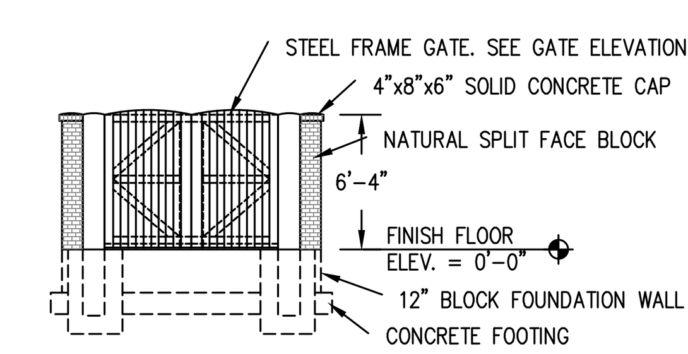
PIPE INSIDE DIAMETER	≤ 27"	30" TO 60"
BEDDING BELOW THE PIPE BELL, 'd'	3" (MIN. = 4")	4" (MAX. = 8")

RIGID PIPE BEDDING DETAIL
RCP AND VCP PIPE
NOT TO SCALE

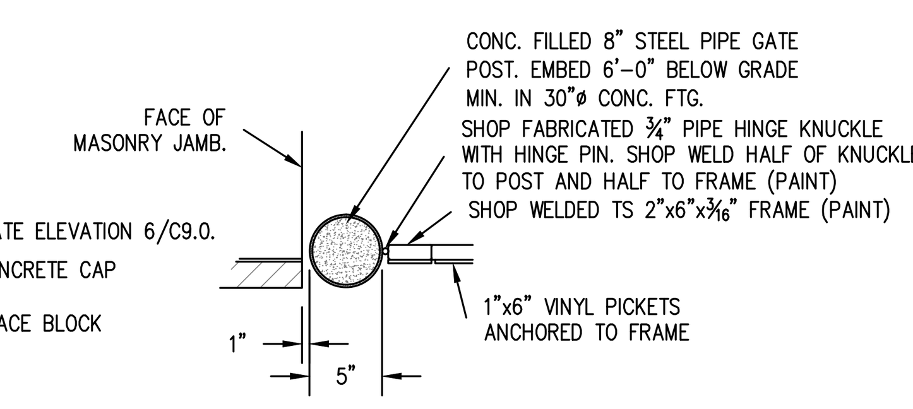


PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BELL	O.D. / 4 MIN. = 4"	O.D. / 4 MAX. = 8"

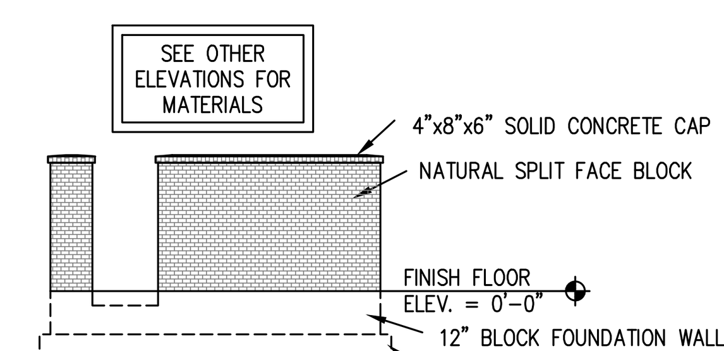
FLEXIBLE PIPE BEDDING DETAIL
PVC AND HDPE PIPE
NOT TO SCALE



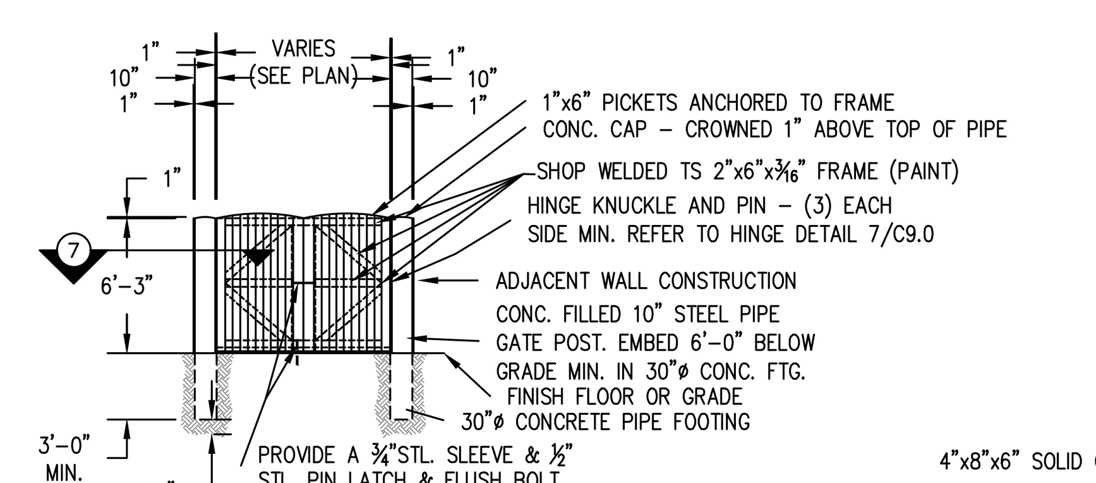
ELEVATION VIEW (2)
NOT TO SCALE



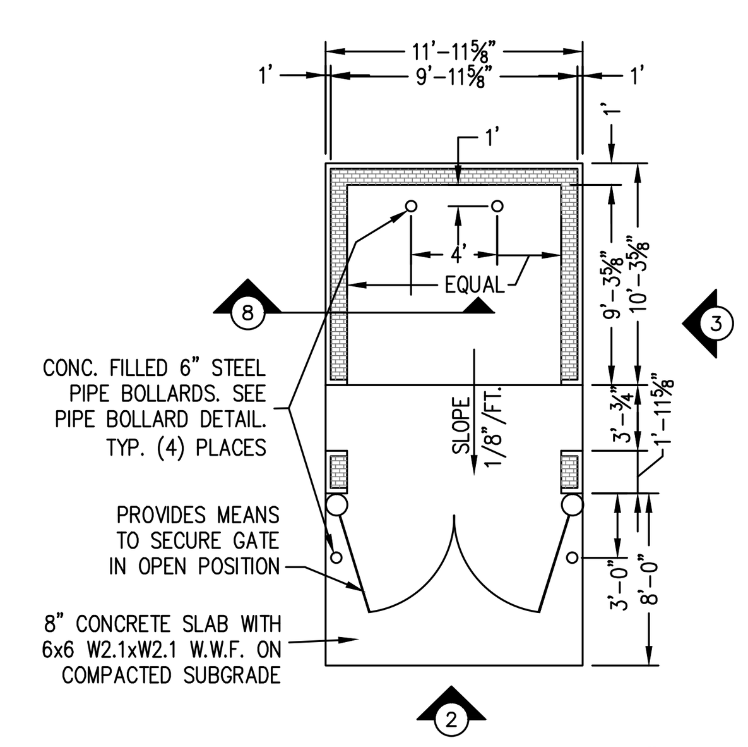
ENLARGED HINGE DETAIL (7)
NOT TO SCALE



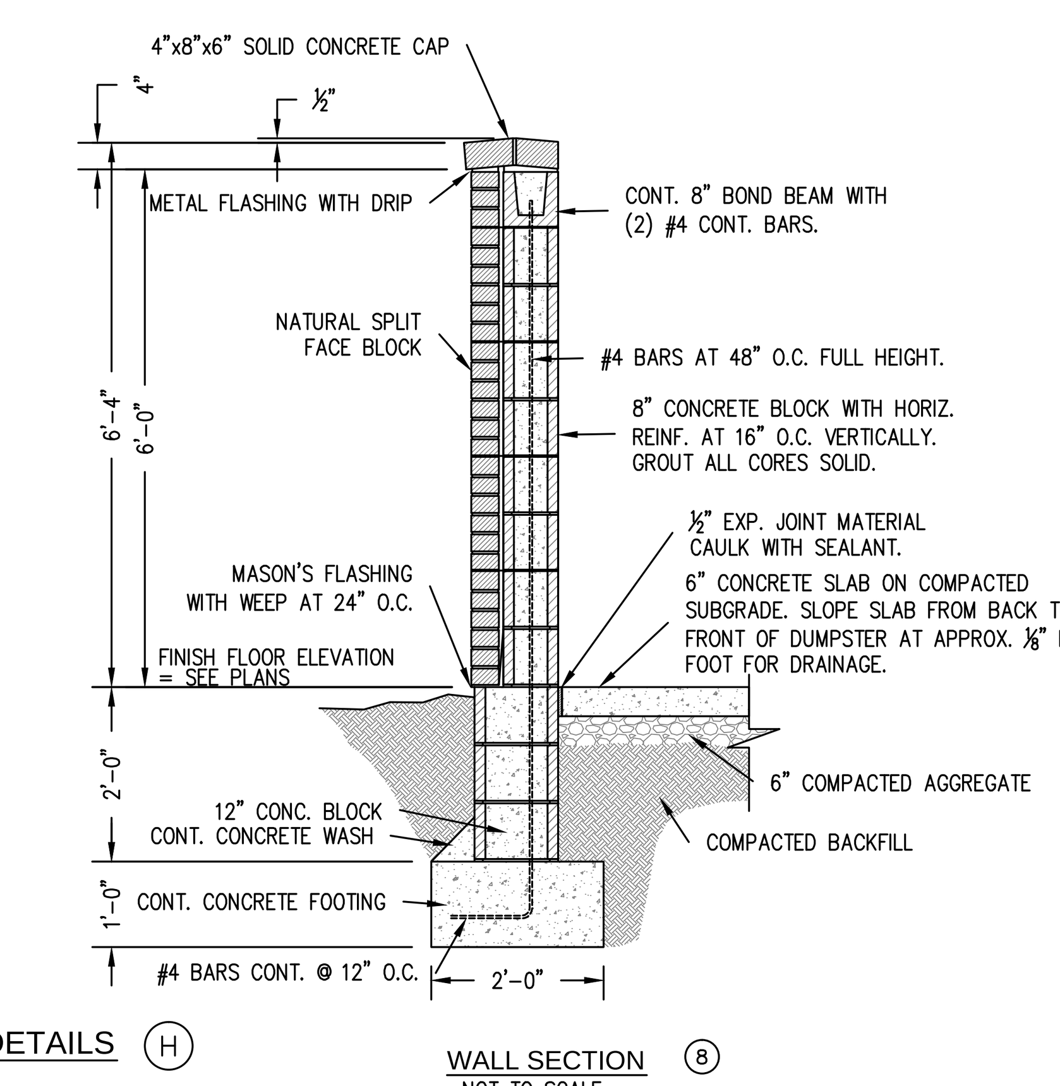
ELEVATION VIEW (3)
NOT TO SCALE



GATE ELEVATION (6)
NOT TO SCALE



TRASH DUMPSTER PLAN (1)
NOT TO SCALE



WALL SECTION (8)
NOT TO SCALE

TRASH ENCLOSURE DETAILS (H)
NOT TO SCALE

MISCELLANEOUS DETAILS
CENTENNIAL BIBLE CHURCH

CROSSROAD ENGINEERS PC — Transportation & Development Consultants

JOB No.	.	DRAWN	LMC	CHECKED	TEN
DATE	AUGUST 3, 2012	DESIGNED	DJM	APPR.	GJI

SHEET 600

GREGORY J. ILKO — REGISTERED PROFESSIONAL ENGINEER — NO. 10300059 — STATE OF INDIANA

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EARTHWORK

1. SCOPE OF WORK
   - A. EXTENT: THE WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL EXCAVATING, FILLING, ROUGH GRADING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THE PLANS OR IN THE FIELD, BEFORE WORK IS STARTED OR RESUMED.
     1. IN GENERAL, THE ITEMS OF WORK TO BE PERFORMED UNDER THIS SECTION SHALL INCLUDE CLEARING AND GRUBBING, REMOVAL OF TREES AND STUMPS, STRIPPING AND STORAGE OF TOPSOIL, FILL COMPACTION AND ROUGH GRADING OF ENTIRE SITE. ALL TREES SHALL BE REMOVED UNLESS OTHERWISE NOTED IN PLANS OR DIRECTED BY OWNER.
     2. EXCAVATED MATERIAL THAT IS SUITABLE MAY BE USED FOR FILLS. ALL UNSUITABLE MATERIAL AND ALL SURPLUS EXCAVATED MATERIAL NOT REQUIRED SHALL BE REMOVED FROM THE SITE. THE LOCATION OF DUMP AND LENGTH OF HAUL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
     3. PROVIDE AND PLACE ANY ADDITIONAL FILL MATERIAL FROM OFF THE SITE AS MAY BE NECESSARY TO PRODUCE THE GRADES REQUIRED. FILL OBTAINED FROM OFF SITE SHALL BE OF KIND AND QUALITY AS SPECIFIED FOR FILLS HEREIN AND THE SOURCE APPROVED BY THE OWNER.
     4. THE CONTRACTOR SHALL ACCEPT THE SITE AS HE FINDS IT AND SHALL REMOVE ALL TRASH, RUBBISH AND DEBRIS FROM THE SITE PRIOR TO STARTING EXCAVATION
2. BENCHMARK
   - A. MAINTAIN CAREFULLY ALL BENCH MARKS, MONUMENTS AND OTHER REFERENCE POINTS; IF DISTURBED OR DESTROYED, CONTRACTOR SHALL CONTACT ENGINEER.
3. REMOVAL OF TREES
   - A. THE INTEGRITY OF THE TOPOGRAPHIC FEATURES (INCLUDING TREES) SHALL BE PERSEVERED AS MUCH AS POSSIBLE THE CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR ENGINEER PRIOR TO CLEARING THE SITE FOR CONSTRUCTION.
   - B. ALL BRUSH, STUMPS, WOOD AND OTHER REFUSE FROM THE TREES REMOVED SHALL BE HAULED TO DISPOSAL AREAS OFF OF THE SITE. DISPOSAL BY BURNING SHALL NOT BE PERMITTED UNLESS PROPER PERMITS ARE OBTAINED (WHERE APPLICABLE).
4. HANDLING OF TOPSOIL
   - A. REMOVE ALL ORGANIC MATERIAL FROM THE AREAS TO BE OCCUPIED BY BUILDINGS, ROADS, WALKS AND PARKING AREAS. PILE AND STORE TOPSOIL AT A LOCATION WHERE IT WILL NOT INTERFERE WITH CONSTRUCTION OPERATIONS. TOPSOIL SHALL BE REASONABLE FREE FROM SUBSOIL, DEBRIS, WEEDS, GRASS, STONES, ETC.
   - B. AFTER COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED ON THE EROSION CONTROL PLAN FOR SEEDING AND/OR SODDING. ANY REMAINING TOPSOIL SHALL BE USED FOR FINISHED GRADING AROUND STRUCTURES AND LANDSCAPING AREAS.
5. DISPOSITION OF UTILITIES
   - A. RULES AND REGULATIONS GOVERNING THE RESPECTIVE UTILITIES SHALL BE OBSERVED IN EXECUTING ALL WORK UNDER THIS SECTION.
   - B. IF ACTIVE UTILITIES ARE ENCOUNTERED BUT NOT SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE ADVISED BEFORE WORK IS CONTINUED.
   - C. INACTIVE AND ABANDONED UTILITIES ENCOUNTERED IN EXCAVATING AND GRADING OPERATIONS SHALL BE REPORTED TO THE ENGINEER. THEY SHALL BE REMOVED, PLUGGED OR CAPPED AS DIRECTED BY THE UTILITY COMPANY OR THE ENGINEER.
   - D. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF THE WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED.
6. SITE GRADING
   - A. GRADES: CONTRACTOR SHALL PERFORM ALL CUTTING, FILLING, COMPACTING OF FILLS AND ROUGH GRADING REQUIRED TO BRING ENTIRE PROJECT AREA TO GRADE AS SHOWN ON THE DRAWINGS.
   - B. ROUGH GRADING: THE TOLERANCE FOR PAVED AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS ABOVE THE ESTABLISHED SUBGRADE. ALL OTHER AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS THE ESTABLISHED GRADE. ALL BANKS AND OTHER BREAKS IN GRADE SHALL BE ROUNDED AT THE TOP AND BOTTOM.
   - C. COMPACTION REQUIREMENTS:
     1. ALL BUILDING PAD AREAS SHALL BE COMPACTED TO STANDARDS SPECIFIED BY LOCAL AND/OR STATE BUILDING CODES.
     2. COMPACTION REQUIREMENTS OF PAVED AREAS SHALL BE 95% OF MAXIMUM DRY DENSITY.
7. EARTH WORK BALANCE
   - A. THE CONTRACTOR SHALL CONFIRM ALL EARTHWORK QUANTITIES PRIOR TO START OF CONSTRUCTION. IF AN EXCESS OR SHORTAGE OF EARTH IS ENCOUNTERED, THE CONTRACTOR SHALL CONFIRM WITH THE OWNER AND ENGINEER THE REQUIREMENTS FOR STOCKPILING, REMOVAL OR IMPORTING OF EARTH.

     MINOR ADJUSTMENTS TO THE GRADES MAY BE REQUIRED TO EARTHWORK BALANCES WHEN MINOR EXCESS MATERIAL OR SHORTAGES ARE ENCOUNTERED. IT IS RECOGNIZED BY THE PARTIES HERETO THAT THE CALCULATIONS OF THE ENGINEER IN ACCORDANCE WITH THE AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARDS FOR SUCH CALCULATIONS. FURTHER, THAT THESE CALCULATIONS ARE SUBJECT TO THE INTERPRETATIONS OF SOIL BORINGS AS THE PHYSICAL LIMITS IN FINISH GRADE AND COMPACTION PERMITTED THE CONTRACTOR, AND THAT ALL OF THESE PARAMETERS MAY CAUSE EITHER AN EXCESS OR SHORTAGE OF ACTUAL EARTHWORK MATERIALS TO COMPLETE THE PROJECT. IF SUCH AN ACTUAL MINOR EXCESS OR SHORTAGE OF ACTUAL EARTHWORK MATERIALS OCCURS, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO DETERMINE IF ADJUSTMENTS CAN BE MADE TO CORRECT THE IMBALANCE OF EARTH.

STREETS \ PARKING LOTS

1. SCOPE OF WORK
   - A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL CONCRETE AND BITUMINOUS PAVING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
     1. ALL STREETS, PARKING AREAS WITHIN THE CONTRACT LIMITS.
     2. CURBS AND CONCRETE RAMPS.
     3. SIDEWALKS AND CONCRETE SLABS.
     4. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
   - B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
2. PAVEMENT CONSTRUCTION
   - A. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND CONFORM TO THE MINIMUM STANDARDS OF THE CITY OF WESTFIELD PLANNING AND ENGINEERING DEPARTMENTS, AND IF THERE ARE AREAS UNDEFINED USE THE CURRENT I.N.D.O.T. STANDARDS SPECIFICATIONS, AS REVISED.
   - B. FLEXIBLE PAVEMENT
     1. MATERIALS
        - A. GENERAL: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS.
        - B. COMPACTED AGGREGATE BASE: SOUND, ANGULAR CRUSHED LIMESTONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED OR PROCESSED AIR-COOLED BLAST FURNACE SLAG. COURSE AGGREGATE SHALL BE CLASS A, TYPE "0" AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.
        - C. BASE COURT AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO I.N.D.O.T. STANDARDS SPECIFICATIONS SECTION 903.
        - D. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.
        - E. ASPHALT CEMENT: PETROLEUM ASPHALT CEMENT, AP 5 WITH PENETRATION OF 60-70 OR VISCOSITY GRADED ASPHALT CEMENT AC-20 CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.
        - F. PRIME COAT: MEDIUM-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 408.
        - G. TACK COAT: RAPID-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 409.
        - H. LANE MARKING PAINT: CHLORINATED RUBBER-ALKYD TYPE, AASHTO M248 (FS TT-P-115), TYPE III.
3. ASPHALT-AGGREGATE MIXTURE
   ALL BITUMINOUS MIXTURES ARE TO CONFORM TO CURRENT I.N.D.O.T. SPECIFICATIONS
   - A. SURFACE COURSE: HMA SURFACE 9.5mm
   - B. BINDER COURSE: HMA INTERMEDIATE 19.0mm
   - C. BASE COURSE: TYPE: HMA BASE 25.0mm
     **PROVIDED A JOB MIX FORMULA FOR EACH TYPE OF ASPHALT PRIOR TO THE BEGINNING OF THE CONSTRUCTION PROJECT.
4. SURFACE PREPARATION
   - A. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.
     - I) PROOF ROLL SUBGRADE SURFACE WITH LOADED TRI-AXLE TRUCK (48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE HAMILTON COUNTY HIGHWAY DEPT.) TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.
     - II) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
   - B. AGGREGATE BASE: AFTER PLACEMENT, PROOF ROLL COMPACTED AGGREGATE BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.
     - I) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT AGGREGATE BASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
     - II) REMOVE LOOSE MATERIAL FROM COMPACTED AGGREGATE BASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.
5. PLACING THE MIX
   - A. GENERAL: PLACE BITUMINOUS AGGREGATE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF. SPREAD MIXTURE AT MINIMUM TEMPERATURE OF 225 DEGREES F.(107 DEGREES C). PLACE INACCESSIBLE AND SMALL AREAS BY HAND. PLACE EACH COURSE TO REQUIRED GRADE, CROSS-SECTION, AND COMPACTED THICKNESS.
   - B. BASE COURSE, COMPACTED AGGREGATE: SPREAD AND COMPACT IN TWO LIFTS AS FOLLOWS:
     - I) FIRST LIFT: NO. 5'S SHALL BE A MINIMUM OF 4" OR ½ THE TOTAL DEPTH OF AGGREGATE. EXTEND THE FIRS LIFT 4" OR A DISTANCE EQUAL TO THE DEPTH OF THE LIFT BEYOND THE SECOND LIFT.
     - II) SECOND LIFT: SIZE NO. 53
   - C. PRIME COAT: SUBBASE SURFACE SHALL BE PRIMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 408 OF I.N.D.O.T. STANDARD SPECIFICATIONS.
   - D. HOT ASPHALT CONCRETE BINDER COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTHS INDICATED ON DETAILS.
   - E. TACK COAT: BINDER COURSE SHALL BE TACKED PRIOR TO THE INSTALLATION OF THE SURFACE COURSE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 409 OF I.N.D.O.T. STANDARD SPECIFICATIONS.
   - F. SURFACE COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTH INDICATED ON DETAILS. FINISH ELEVATION SHALL BE TRUE TO LINE AND GRADE WITHIN ½" OF TRUE ELEVATIONS.
   - G. PAVER PLACING: PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTEND ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BINDER COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE.
   - H. JOINTS: MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN PAVER PASSES, OR BETWEEN SUCCESSIVE DAYS WORK, TO ENSURE CONTINUOUS BOND BETWEEN ADJOINING WORK. CONSTRUCT JOINTS TO HAVE SAME TEXTURE, DENSITY AND SMOOTHNESS AS OTHER SECTIONS. CLEAN CONTACT SURFACES AND APPLY TACT COAT.
6. ROLLING
   - A. GENERAL: BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.
     - I) COMPACT MIXTURE WITH HOT HAND TAMPERS OR VIBRATING PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS.
   - B. BREAKDOWN ROLLING: ACCOMPLISH BREAKDOWN OR INITIAL ROLLING IMMEDIATELY FOLLOWING ROLLING OF JOINTS AND OUTSIDE EDGE. CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT MATERIAL.
   - C. SECOND ROLLING: FOLLOW BREAKDOWN ROLLING AS SOON AS POSSIBLE, WHICH MIXTURE IS HOT. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.
   - D. FINISH ROLLING: PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY.
   - E. PATCHING: REMOVE AND REPLACE PAVING AREAS MIXED WITH FOREIGN MATERIALS AND DEFECTIVE AREAS. CUT OUT SUCH AREAS AND FILL WITH FRESH, HOT BITUMINOUS AGGREGATE MIX. COMPACT BY ROLLING TO MAXIMUM SURFACE DENSITY AND SMOOTHNESS.
   - F. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.
   - G. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
7. TRAFFIC AND LANE MARKINGS
   - A. CLEANING: SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.
   - B. STRIPPING: USE CHLORINATED RUBBER BASE TRAFFIC LANE-MARKING PAINT, FACTORY MIXED, QUICK-DRYING, AND NON-BLEEDING.
     COLOR: WHITE/BLUE
     - I) DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER.
     - II) APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES.
8. FIELD QUALITY CONTROL
   - A. TESTING AND INSPECTION SERVICE:
     - I) OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS.
     - II) TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN PROGRESS.
   - B. GENERAL: TESTING SERVICE REPRESENTATIVE SHALL TAKE A MINIMUM OF TWO SAMPLES PER LIFT OF BITUMINOUS AGGREGATE MIX EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE GRADATION AND ASPHALT CONTENT.
     - I) TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER.
     - II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER OF THE PAVEMENT.
   - C. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:
     AGGREGATE BASE COURSE: ½", PLUS OR MINUS
     BASE COURSE: ½", PLUS OR MINUS
     BINDER COURSE: ¼", PLUS OR MINUS
     SURFACE COURSE: ¼", PLUS OR MINUS
     - I) A MINIMUM OF TWO PAVEMENT CORES PER COMPACTED LIFT SHALL BE TAKEN. CORES ARE TO BE TAKEN AT LOCATIONS AND AT TIMES OF DAY AS DIRECTED BY THE TESTING SERVICE. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE TESTING SERVICE, ON EACH PAVEMENT CORE:
     - II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY OF THE REMAINDER OF THE PAVEMENT.
   - D. PAVEMENT THICKNESS
     DENSITY
     AIR VOIDS
     - I) TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - II) PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.
   - E. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS, USING 10' STRAIGHTEDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.
     AGGREGATE BASE COURSE SURFACE:1/4"
     BASE COURSE SURFACE: 1/4"
     BINDER COURSE SURFACE: 1/8"
     WEARING COURSE SURFACE: 1/8"
     - I) CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.
   - F. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TEST SHALL BE AS FOLLOWS:
     - I) TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT PAVING AREAS.
   - G. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.
     - I) SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH I.N.D.O.T. STANDARD SPECIFICATIONS, SECTION 207 AND SUBSECTION 501.07. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.
     - II) SEE SITE GRADING, UNDER THE 'EARTHWORK' SECTION FOR ADDITIONAL COMPACTION REQUIREMENTS.
9. APPLICATION
   - A. GRADING: DO ANY NECESSARY GRADING IN ADDITION TO THAT PERFORMED IN ACCORDANCE WITH EARTHWORK SECTION TO BRING SUBGRADES, AFTER FINAL COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENTS.
   - B. PREPARATION OF SUBGRADE: REMOVE SPONGY AND OTHERWISE UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL. NO TRAFFIC WILL BE ALLOWED ON PREPARED SUBGRADE PRIOR TO PAVING.
   - C. COMPACTION OF SUBGRADE: THE FIRST 6 INCHES BELOW THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROVISIONS OF AASHO T-99. WATER SHALL BE PREVENTED FROM STANDING ON THE COMPACTED SUBGRADE.
   - D. UTILITY STRUCTURES: CHECK FOR CORRECT ELEVATION OF ALL MANHOLE COVERS, VALVE BOXES AND SIMILAR STRUCTURES LOCATED WITHIN AREAS TO BE PAVED, AND MAKE, OR HAVE MADE, ANY NECESSARY ADJUSTMENTS IN SUCH STRUCTURES.
   - E. PLACING CONCRETE
     1. SUBGRADE: PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON A MUDDY OR FROZEN SUBGRADE.
     2. FORMS: ALL FORMS SHALL BE FREE FROM WARP, TIGHT ENOUGH TO PREVENT LEAKAGE AND SUBSTANTIAL ENOUGH TO MAINTAIN THEIR SHAPE AND POSITION WITHOUT SPRINGING OR SETTLING, WHEN CONCRETE IS PLACED. FORMS SHALL BE CLEAN AND SMOOTH IMMEDIATELY BEFORE CONCRETING.
     3. PLACING CONCRETE: CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICABLE. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F. OR LESS, PARAGRAPH 702.10 OF THE I.N.D.O.T. SPECIFICATIONS LATEST REVISIONS SHALL BE FOLLOWED.
   - F. CONCRETE CURB
     1. EXPANSION JOINTS: SHALL BE 1/2 INCH THICK PREMOULDED AT ENDS OF ALL RETURNS AND AT A MAXIMUM SPACING OF 100 FEET.
     2. CONTRACTION JOINTS UNLESS OTHERWISE PROVIDED, CONTRACTION JOINTS SHALL BE SAWED JOINTS SPACED 10 FEET ON CENTER.
     3. FINISH: TAMP AND SCREED CONCRETE AS SOON AS PLACED, AND FILL ANY HONEY COMBED PLACES. FINISH SQUARE CORNERSTONE 1/4 INCH RADIUS AND OTHER CORNERS TO RADII SHOWN.
   - G. CONCRETE WALKS AND EXTERIOR STEPS
     1. SLOPES: PROVIDE ¼ INCH PER FOOT CROSS SLOPE. MAKE ADJUSTMENTS ON SLOPES AT WALK INTERSECTIONS AS NECESSARY TO PROVIDE PROPER DRAINAGE.
     2. DIMENSIONS: WALKS AND STEPS SHALL BE ONE COURSE CONSTRUCTION AND OF WIDTHS AND DETAILS SHOWN ON THE DRAWINGS.
     3. FINISH: SCREED CONCRETE AND TROWEL WITH A STEEL TROWEL TO A HARD DENSE SURFACE AFTER SURFACE WATER HAS DISAPPEARED. APPLY MEDIUM BROOM FINISH AND SCRIBE TRANSVERSE JOINTS AT 6 FOOT SPACING. PROVIDE ½ INCH EXPANSION JOINTS WHERE SIDEWALKS INTERSECT, AND AT A MAXIMUM SPACING OF 48 FEET BETWEEN EXPANSION JOINTS.
   - H. CURING CONCRETE FOR WALKS AND CURBS: EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN SECTION 501.17 OF THE I.N.D.O.T. SPECIFICATIONS, LATEST REVISION.
   - I. BITUMINOUS PAVEMENT: HOT MIX ASPHALT PAVEMENT SHALL BE AS SPECIFIED IN SECTION 402 OF THE I.N.D.O.T. SPECIFICATIONS LATEST REVISIONS. PAVING WILL NOT BE PERMITTED DURING UNFAVORABLE WEATHER OR THEN THE TEMPERATURE IS 40 DEGREES F. AND FALLING.
   - J. COMPACTED AGGREGATE SUBBASE: THE THICKNESS SHOWN ON THE DRAWINGS IS THE MINIMUM THICKNESS OF THE FULL COMPACTED SUBBASE. COMPACTION SHALL BE ACCOMPLISHED BY ROLLING WITH A SMOOTH WHEELED ROLLER WEIGHING 8 TO 10 TONS. COMPACT TO 95% COMPACTION USING STANDARD TESTING PROCEDURES. ALONG CURBS, HEADERS AND WALLS AND AT ALL PLACES NOT ACCESSIBLE TO THE ROLLER, THE AGGREGATE MATERIAL SHALL BE TAMPED WITH MECHANICAL TAMPERS OR WITH APPROVED HAND TAMPERS.
   - K. CONCRETE RAMPS
     1. CONCRETE RAMPS FOR THE DISABLED SHALL BE REQUIRED AS SPECIFIED IN THE PLANS AND SHALL CONFORM WITH CURRENT SPECIFICATIONS ESTABLISHED BY THE AMERICAN DISABILITIES ACT (ADA), SECTION 4.7, "CURB RAMPS."
     2. THE CONCRETE RAMP SHALL BE FLUSH AND FREE OF ABRUPT CHANGES WITH SIDEWALKS, GUTTERS OR STREETS, AND PROVIDE A MAXIMUM SLOPE OF 1:12.
     3. THE MINIMUM WIDTH OF A CONCRETE RAMP SHALL BE (48) INCHES EXCLUSIVE OF FLARED SIDES.
     4. SIDES OF CONCRETE RAMPS SHALL HAVE FLARED SIDES AS SHOWN IN THE PLANS.

STORM SEWER SYSTEMS

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL STORM SEWERS, STORM WATER INLETS, AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
   - B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.
2. STORM SEWER CONSTRUCTION
   - A. STORM SEWERS
     1. STORM SEWER STRUCTURES SHALL COMPLY WITH CURRENT SPECIFICATIONS OF THE CITY OF WESTFIELD PLANNING AND ALL OTHER RESPONSIBLE AGENCIES IN RESPECT TO DESIGN AND QUALITY OF CONSTRUCTION.
     2. ALL STORM SEWER CONSTRUCTION INSIDE PUBLIC RIGHT-OF-WAY, EITHER EXISTING OR TO BE DEDICATED, SHALL BE IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
     3. WHERE REINFORCED CONCRETE PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE IN ACCORDANCE WITH A.S.T.M. C-76 CLASS III WALL "C" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
     4. WHERE CORRUGATED METAL PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE 14 GAUGE ALUMINIZED UNLESS OTHERWISE SPECIFIED AND SHALL HAVE THE CONNECTING BANDS AND SEALS AS SPECIFIED BY THE MANUFACTURER. C.M.P. SHALL BE ALUMINIZED PIPE IN ACCORDANCE WITH A.S.T.M. A-444.
     5. MANHOLES, CATCH BASINS AND INLETS SHALL BE PRECAST CONCRETE. USE OF BRICK OR BLOCK WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE ENGINEER AND APPROVED IN WRITING BY THE HAMILTON COUNTY PLANNING AND HIGHWAY DEPARTMENTS DRAINAGE PRIOR TO CONSTRUCTION.
        A. IF THE CONTRACTOR ELECTS TO USE ALTERNATE PRECAST STRUCTURES, HE SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION.
     6. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478.
     7. CASTINGS SHALL BE AS SHOWN ON THE DETAIL SHEET(S) FOR MANUFACTURER, TYPE AND MODEL NUMBER.
     8. B-BORROW GRANULAR BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND TRENCHES WITHIN FIVE(5) FEET OF THE EDGE OF PAVEMENT.
     9. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT MODIFIED PROCTOR.
3. APPLICATION
   - A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.
   - B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
   - E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING PIPE AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. MANHOLE INVERTS: CONSTRUCT MANHOLE FLOW CHANNELS OF CONCRETE SEWER PIPE OR BRICK, SMOOTHLY FINISHED AND OF SEMICIRCULAR SECTION CONFORMING TO THE INSIDE DIAMETER OF THE CONNECTING SEWERS. MAKE CHANGES IN SIZE OR GRADE GRADUALLY AND CHANGES INDIRECTION BY TRUE CURVES. PROVIDE SUCH CHANNELS FOR ALL CONNECTING SEWERS AT EACH MANHOLE.
   - I. SUBDRAINS: ALL SUBDRAINS SHALL BE OF THE SIZE SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED TO THE GRADES SHOWN. ALL DRAINS CONSTRUCTED OFF-SITE AS PART OF THE OUTLET DRAIN WILL BE LOCATED AS SHOWN.
   - J. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

WATER LINE SYSTEM

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL WATER MAIN, FIRE HYDRANTS, SERVICES AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
2. MATERIALS
   - A. ALL MATERIALS SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES AND SHALL BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
3. APPLICATION
   - A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING WATER MAINS.
   - B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE WATER LINE INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. THIS INCLUDES ALL REQUIRED CLEANING AND TESTING PROCEDURES REQUIRED BY THE STATE AND LOCAL AGENCIES.
   - E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING PIPE AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK
   - A. THE WORK UNDER THIS SECTION INCLUDES ALL SANITARY SEWERS, MANHOLES, CLEANOUTS AND RELATED ITEMS INCLUDING EXCAVATING AND BACKFILLING, NECESSARY TO COMPLETE THE WORK SHOWN IN THE DRAWINGS, STARTING OUTSIDE THE BUILDING WALLS. THE END OF SEWERS SHALL BE TIGHTLY PLUGGED OR CAPPED AT THE TERMINAL POINTS, ADJACENT TO THE BUILDING DRAIN AS SPECIFIED IN THE PLUMBING SPECIFICATIONS AND/OR ARCHITECTURAL DRAWINGS.
2. MATERIALS
   - A. SANITARY SEWERS
     1. ALL GRAVITY PLASTIC SEWER PIPE FITTINGS SHALL CONFORM TO ASTM D3034 WITH A CELL CLASSIFICATION OF 12454-B OR 12454-C. FLEXIBLE GASKETED COMPRESSION JOINTS SHALL BE USED FOR PVC & PVC TRUSS PIPE. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED.
     2. ABS SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2680 LATEST REVISION.
     3. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW SANITARY PIPE.
   - B. MANHOLES
     1. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS AND STEPS SHALL CONFORM TO ASTM C-478 LATEST REVISION. EXTERIOR OF THE MANHOLE SHALL BE WATERPROOFED WITH BISMATIC MATERIAL.
     2. CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOW HOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL-CLEANED BY SHOT-BLASTING OR BY SOME OTHER APPROVED METHOD. THEY SHALL BE COATED WITH ASPHALT PAINT WHICH SHALL RESULT IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE. THEY SHALL BE GRAY IRON MEETING ASTM A-48 LATEST REVISION. MANHOLE COVERS FOR SANITARY SEWER SHALL BE NEENAH TYPE R-1077-A W/R-1712-B-SP FRAME W/SELF-SEALING APPLICATION.
     3. JOINTS: MANHOLE SECTIONS SHALL BE JOINED WITH A NOMINAL ½ INCH SIZE BUTYL RUBBER BASE GASKET MATERIAL, CONFORMING TO AASHTO M-198 AND FEDERAL SPECIFICATION SS-S-210A. JOINT CONFORMS TO ASTM C-443.
     4. MANHOLES SHALL INCLUDE STEPS. SANITARY SEWER STANDARDS REVISIONS SHALL BE THAT STEPS ARE TO BE POLYPROPYLENE COATED STEEL REINFORCING OR AN APPROVED NON-CORROSIVE FIBERGLASS MATERIAL. THE COPOLYMER POLYPROPYLENE SHALL MEET THE REQUIREMENTS OF ASTMD-4101 WITH DEFORMED ⅜ INCH DIAMETER OR LARGER REINFORCING STEEL CONFORMING TO ASTM A-615, GRADE 60. STEPS SHALL BE A MAXIMUM OF 24 INCHES FROM TOP, 24 INCHES FROM BOTTOM AND 16 INCHES SPACING BETWEEN.
   - C. SANITARY FORCE MAINS
     1. ALL SANITARY FORCE MAIN PIPE AND FITTINGS SHALL CONFORM TO ASTM D2241, STANDARD SPECIFICATION FOR POLY VINYL CHLORIDE (PVC) PRESSURE-RATED PIPE, (SDR 21, GREATER THAN 4 INCH DIAMETER).
     2. TRACER WIRE SHALL BE INSTALLED WITH ALL SANITARY FORCE MAIN PIPE.
   - D. CASING
     1. SANITARY SEWERS CONSTRUCTED WITH POLYVINYL CHLORIDE (PVC) AND INSTALLED UNDER RAILROADS SHALL BE CASED IN CONFORMANCE WITH AWWA STANDARD C900-89, STANDARD FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, 4 IN. THROUGH 12 IN. FOR WATER DISTRIBUTION, APPENDIX A.
3. APPLICATION
   - A. PERMITS AND CODES:
     THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.
   - B. LOCAL STANDARDS:
     THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.
   - C. EXISTING IMPROVEMENTS:
     THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.
   - D. WORKMANSHIP:
     THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
   - E. TRENCHING:
     LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. PLUS 12 INCHES. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.
   - F. SPECIAL SUPPORTS:
     WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.
   - G. BACKFILLING:
     BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.
   - H. FLOW CHANNELS:
     THE FLOW CHANNELS WITHIN MANHOLES SHALL BE AN INTEGRAL PART OF THE PRECAST BASE. THE CHANNELS SHALL BE SHAPED AND FORMED FOR A CLEAN TRANSITION WITH PROPER HYDRAULICS TO ALLOW THE SMOOTH CONVEYANCE OF FLOW THROUGH THE MANHOLE. THE BENCH WALL SHALL BE FORMED TO THE CROWN OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL. THE BENCH WALL SHALL SLOPE BACK FROM THE CROWN AT ½ INCH PER FOOT TO THE MANHOLE WALL.
   - I. LEAKAGE TESTING:
     THE CONTRACTOR SHALL FURNISH THE NECESSARY EQUIPMENT TO TEST SEWERS FOR INFILTRATION. ALL SANITARY SEWER GRAVITY LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS ONE OF THE FOLLOWING TESTS:
   - J. HYDROSTATIC TEST:
     A HYDROSTATIC TEST SHALL BE PERFORMED WITH A MINIMUM OF TWO (2) FEET OF POSITIVE HEAD. THE RATE OF EXFILTRATION OR INFILTRATION SHALL NOT EXCEED TWO HUNDRED (200) GALLONS PER INCH OF PIPE DIAMETER PER LINEAR MILE PER DAY.
   - K. LOW PRESSURE AIR TEST:
     A LOW PRESSURE AIR TEST SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM F1417, STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR, FOR PLASTIC PIPE.
   - L. ALL SANITARY FORCE MAIN LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS A LEAKAGE TEST CONDUCTED IN ACCORDANCE WITH AWWA STANDARD C605-94, AWWA STANDARD FOR UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS FOR WATER.
   - M. ALL SANITARY SEWER MANHOLES SHALL ALSO BE AIR TESTED IN ACCORDANCE WITH ASTM C1244-93, STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST.
   - N. FLUSHING SEWERS:
     FLUSH ALL SANITARY SEWERS EXCEPT BUILDING SEWERS WITH WATER TO OBTAIN FREE FLOW THROUGH EACH LINE. REMOVE ALL SILT AND TRASH FROM APPURTENANCES JUST PRIOR TO ACCEPTANCE OF WORK.
   - O. PLASTIC SEWER PIPE INSTALLATION:
     PLASTIC SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 PER LATEST REVISION. PIPES SHALL BE TESTED AFTER THIRTY DAYS, USING A MANDREL THAT IS 95% OF THE INSIDE DIAMETER OF THE PIPE BEING TESTED. SAID MANDREL SHALL BE PULLED BY HAND THROUGH EACH PIPE SECTION TO ENSURE DEFLECTION IS LESS THAN ACCEPTABLE LIMITS.
   - P. STORM WATER CONNECTIONS:
     NO ROOF DRAINS, FOOTING DRAINS AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEMS, INCLUDING TEMPORARY CONNECTIONS DURING CONSTRUCTION.
   - Q. WATERLINE CROSSING:
     WHERE WATER LINES AND SANITARY SEWERS CROSS AND WATER LINES CANNOT BE PLACED ABOVE THE SEWER WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, THE SEWER MUST BE CONSTRUCTED OF WATER WORKS GRADE DUCTILE IRON PIPE WITH MECHANICAL JOINTS WITHIN 10 FEET OF THE WATER LINE.
   - R. UTILITIES:
     IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
   - S. SERVICE LATERALS:
     INDIVIDUAL BUILDING LINES SHALL BE 6 INCHES IN DIAMETER AND OF MATERIAL EQUAL TO THAT SPECIFIED IN 2A OF THIS SECTION. SERVICE LINES SHALL BE CONNECTED TO THE MAIN SEWER AT LOCATIONS SHOWN IN THESE PLANS.

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CROSSROAD ENGINEERS, PC
Transportation & Development Consultants
3417 SHERMAN DR. BEECH GROVE, IN 46107 (317) 780-1555

SPECIFICATIONS

CENTENNIAL BIBLE CHURCH

JOB No.	.	DRAWN	LMC	CHECKED	TEN
DATE	AUGUST 3, 2012	DESIGNED	DJM	APPR.	GJI

GREGORY J. ILKO
REGISTERED NO. 10300059
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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8				
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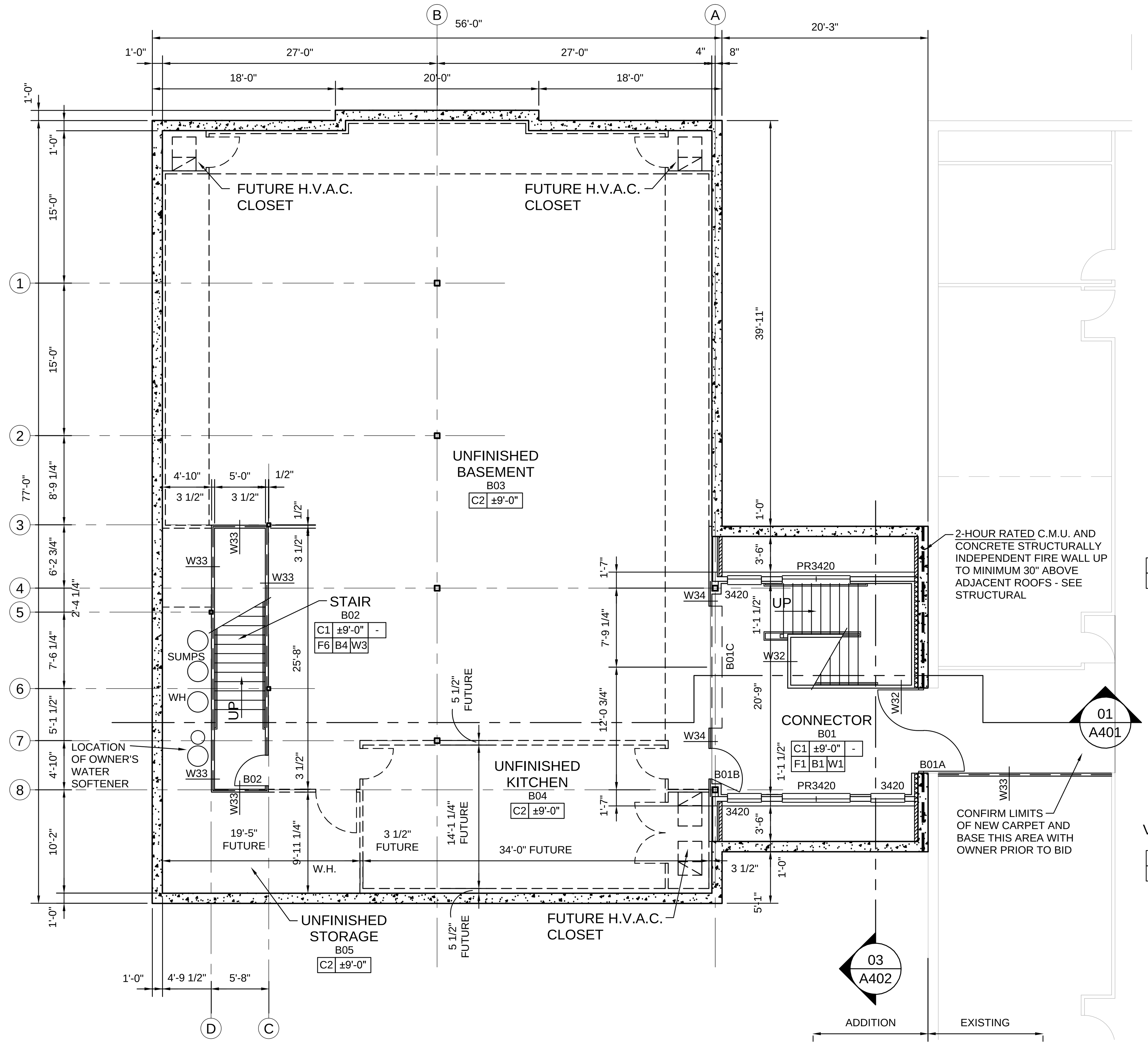
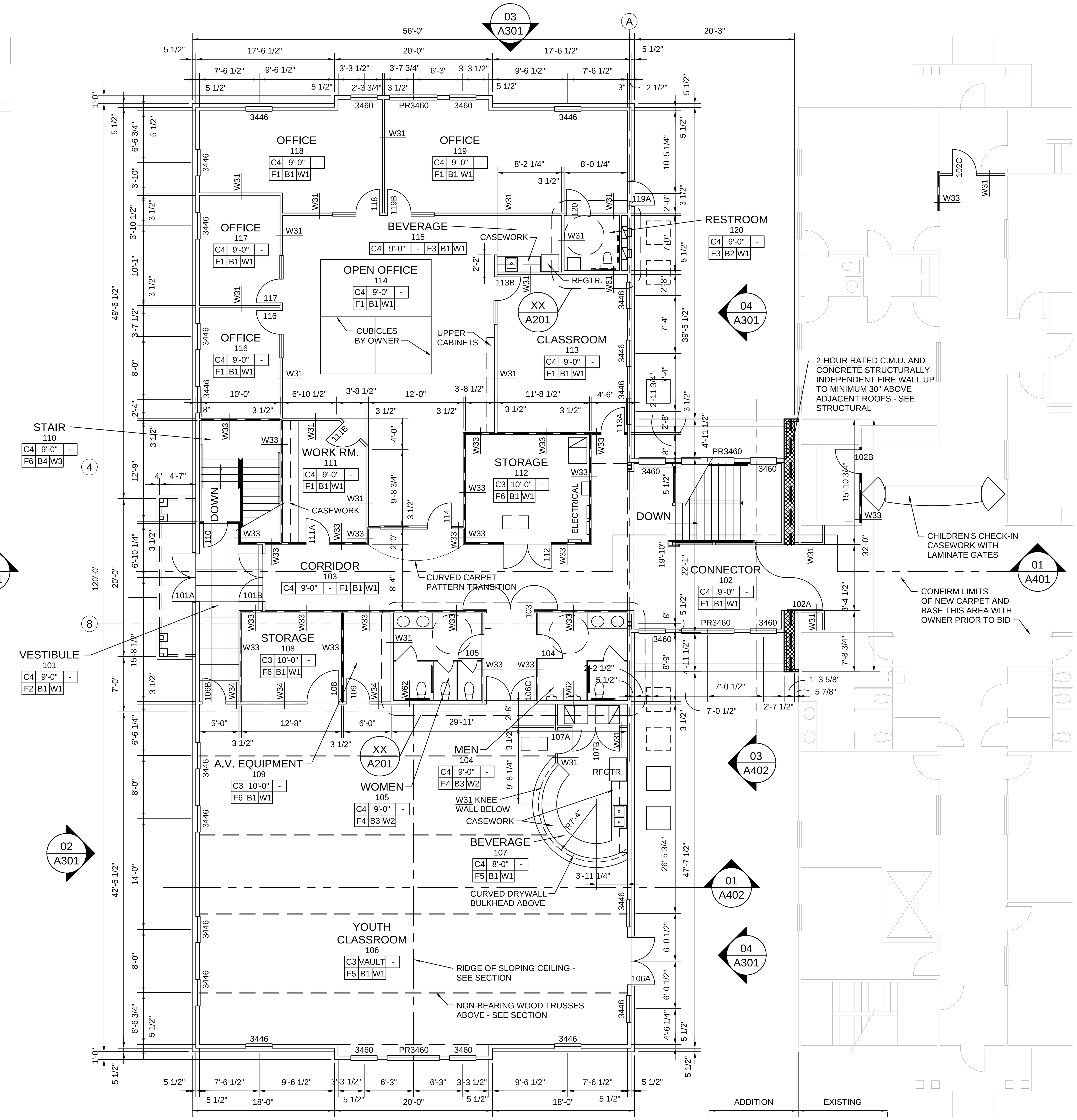


02 / A201 **BASEMENT FLOOR PLAN**
SCALE: 1/8" = 1'-0"

NORTH



01 / A201 **FIRST FLOOR PLAN**
SCALE: 1/8" = 1'-0"

NORTH

WALL TYPE DESIGNATIONS

W31	5/8" GYPSUM BOARD BOTH SIDES OF 2X4 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF ROOF TRUSSES.
W32	5/8" GYPSUM BOARD BOTH SIDES OF 2X4 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF RATED CEILING.
W33	5/8" TYPE "X" GYPSUM BOARD BOTH SIDES OF 2X4 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF JOISTS (1-HOUR RATED FIRE PARTITION PER U.L. #U305)
W34	2-LAYERS TYPE "X" 5/8" GYPSUM BOARD BOTH SIDES OF 2X4 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF ROOF DECK AT FIRST FLOOR OR BOTTOM OF FLOOR DECK AT BASEMENT (2-HOUR RATED FIRE BARRIER PER U.L. #U301)
W61	5/8" GYPSUM BOARD BOTH SIDES OF 2X6 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF ROOF TRUSSES.
W62	2-LAYERS TYPE "X" 5/8" GYPSUM BOARD BOTH SIDES OF 2X6 WOOD STUDS AT 16" O.C. UP TO BOTTOM OF ROOF DECK AT FIRST FLOOR (2-HOUR RATED FIRE BARRIER PER U.L. #U301)

NOTES: - INSTALL GYPSUM BOARD ON ONE SIDE ONLY AT FURRING CONDITIONS.
- INSTALL FULL WIDTH ACOUSTIC BATT INSULATION IN ALL RESTROOM WALLS, CLASSROOM WALLS, AND OFFICE WALLS.

WINDOW SCHEDULE

3420	3'-4" WIDE X 2'-0" TALL FIXED TRANSOM
PR3420	PAIR 3'-4" WIDE X 2'-0" TALL FIXED TRANSOM
3446	3'-4" WIDE X ±4'-6" TALL DOUBLE HUNG (MATCH HT. EXISTING)
3460	3'-4" WIDE X 6'-0" TALL DOUBLE HUNG
PR3460	PAIR 3'-4" WIDE X 6'-0" TALL DOUBLE HUNG

WINDOWS TO MATCH EXISTING APPEARANCE SIMILAR TO ANDERSON 200 SERIES TILT-WASH DOUBLE-HUNG AND TRANSOM CLAD UNITS WITH INSULATED GLAZING, REMOVABLE MUNTINS, SASH LOCKS, AND SCREENS.

WINDOWS SHALL COMPLY WITH THE INDIANA ENERGY CODE.

CONFIRM SIZE AND PROVIDE WINDOWS AT FOUR DORMERS TO MATCH EXISTING.

FINISH KEY LEGEND

CEILING TYPE — C1 | CEILING HEIGHT — 9'-0" | SPECIAL REQUIREMENTS — -
FLOOR FINISH — F1 | BASE FINISH — B1 | WALL FINISH — W1

CEILING			
C1	PAINTED 5/8" TYPE "X" GYPSUM BOARD ON 7/8" FURRING CHANNELS AT 24" O.C. PERPENDICULAR TO JOISTS (2-HOUR RATED FLOOR/CEILING ASSEMBLY PER U.L. #G530)	C2	SAME AS "C1" EXCEPT NO PAINT
		C3	PAINTED 5/8" GYPSUM BOARD
		C4	2 X 4 SUSPENDED ACOUSTICAL PANELS

SPECIAL REQUIREMENTS:

FLOOR		BASE	
F1	CARPET	B1	4" COVED VINYL
F2	CARPET SQUARES	B2	6" COVED VINYL
F3	V.C.T.	B3	6" COVED CERAMIC TILE AT WET WALLS. 6" COVED VINYL OTHER WALLS
F4	CERMAIC TILE		
F5	SEALED STAINED CONCRETE		
F6	SEALED CONCRETE	B4	NO BASE

WALLS			
W1	PAINT	W3	NO PAINT
W2	CERAMIC TILE ON WET WALLS AND WASHABLE PAINT ON OTHER WALLS		

AREA TABULATIONS

1ST FLOOR ADDITION	7,220 SF
BASEMENT ADDITION	4,798 SF
TOTAL ADDITION	12,018 SF

GMP
6-07-12

BYRUM ARCHITECTS

160 W. Carmel Drive, Suite 240
Carmel, Indiana 46032
317-574-8808
www.byrumarchitects.net

Certified By

Drawn By	Checked By
CAD	JWB

Date XX-XX-XX

Revisions:

T&W CHURCH SOLUTIONS

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Indianapolis, Indiana
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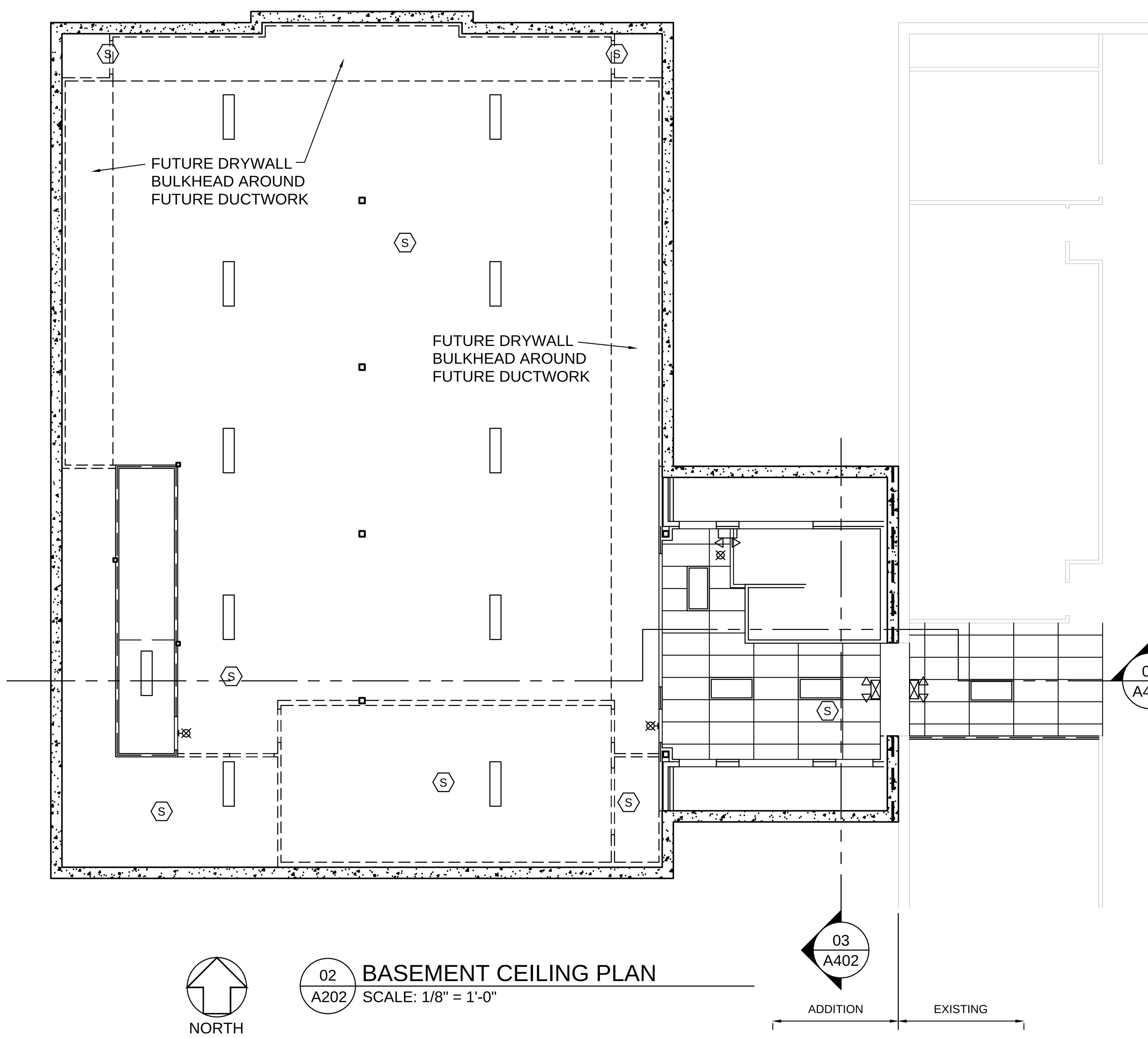
FLOOR PLANS

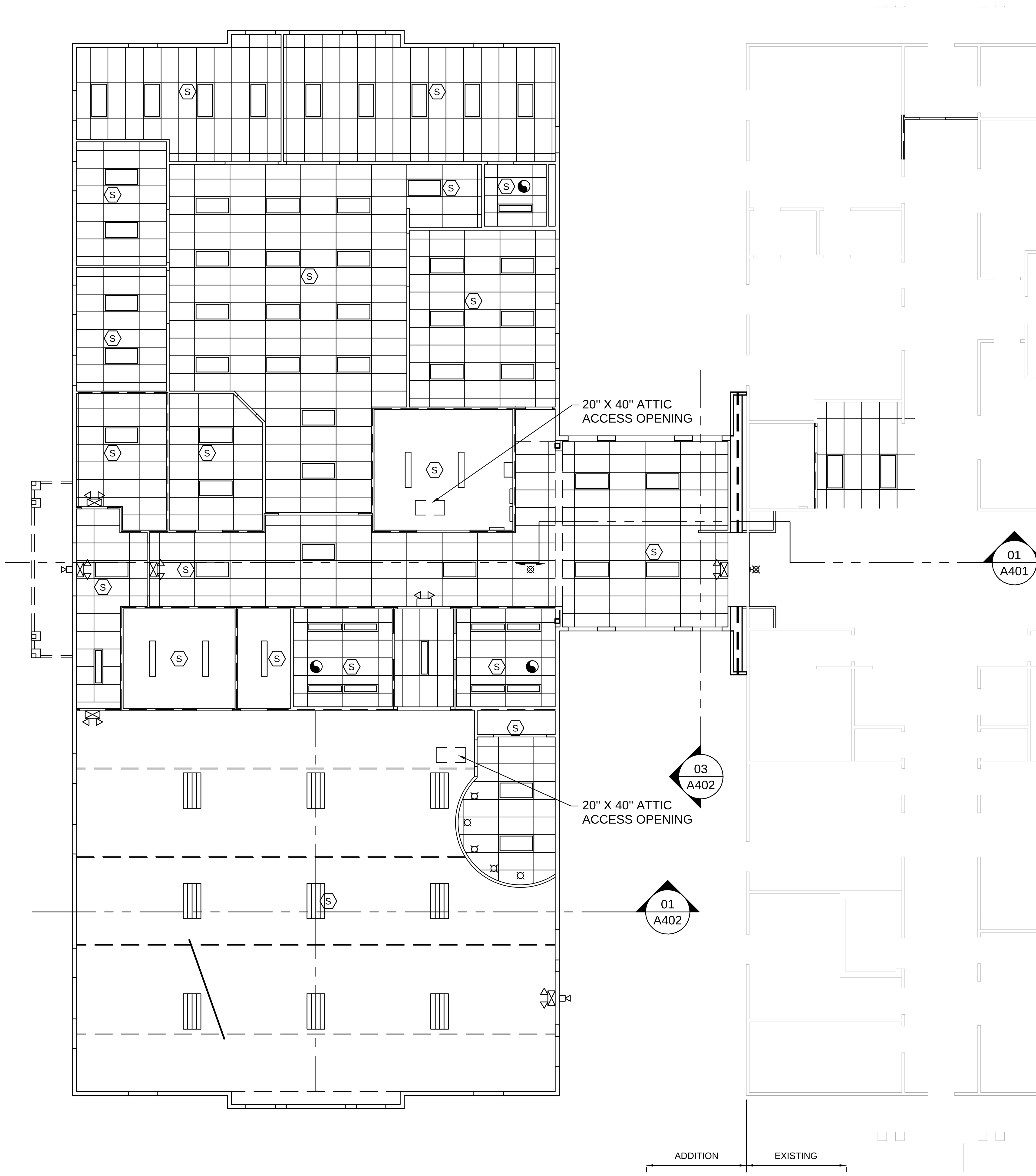
Centennial Bible Church
720 Liberty Drive, Westfield, Indiana

Sheet No.
A201

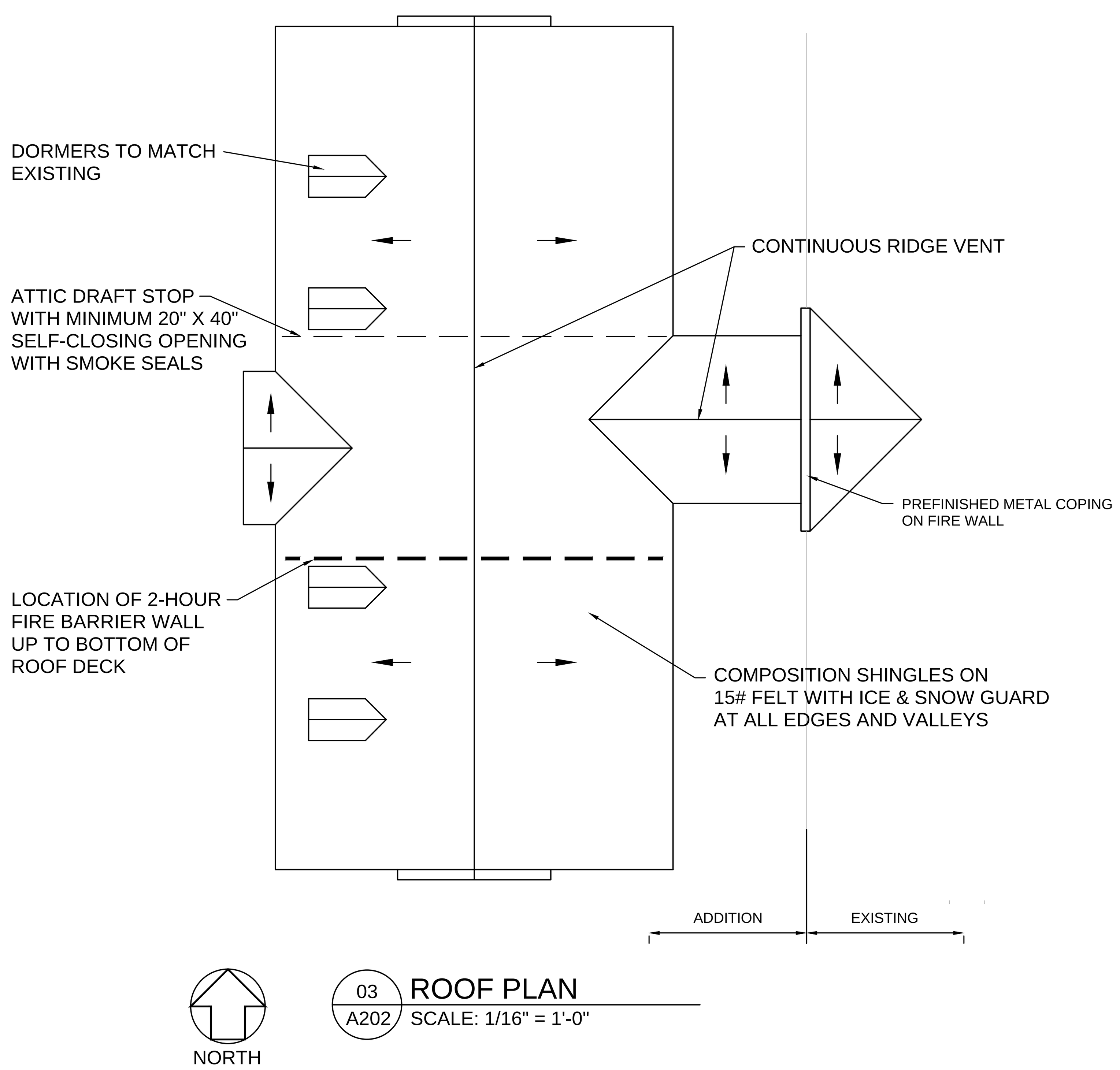
Project No.
12006



02 A202 **BASEMENT CEILING PLAN**
SCALE: 1/8" = 1'-0"



01 A202 **FIRST FLOOR CEILING PLAN**
SCALE: 1/8" = 1'-0"



03 A202 **ROOF PLAN**
SCALE: 1/16" = 1'-0"

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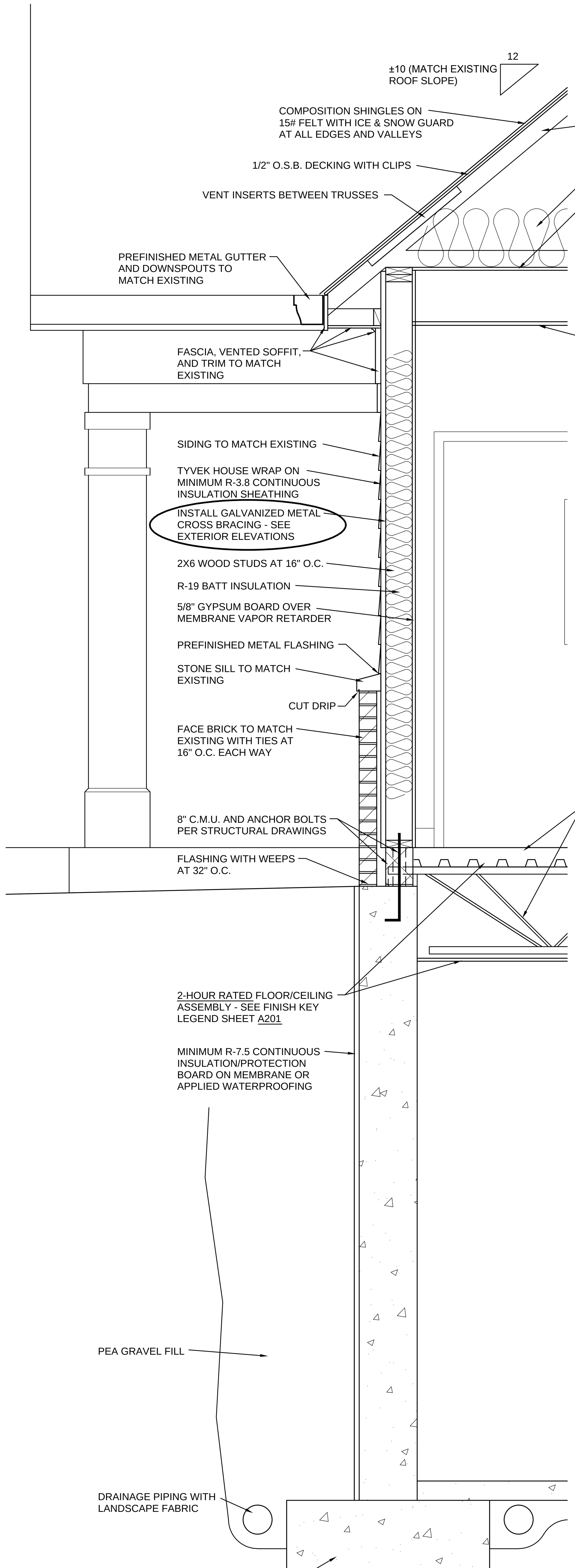
REFLECTED CEILING AND ROOF PLANS

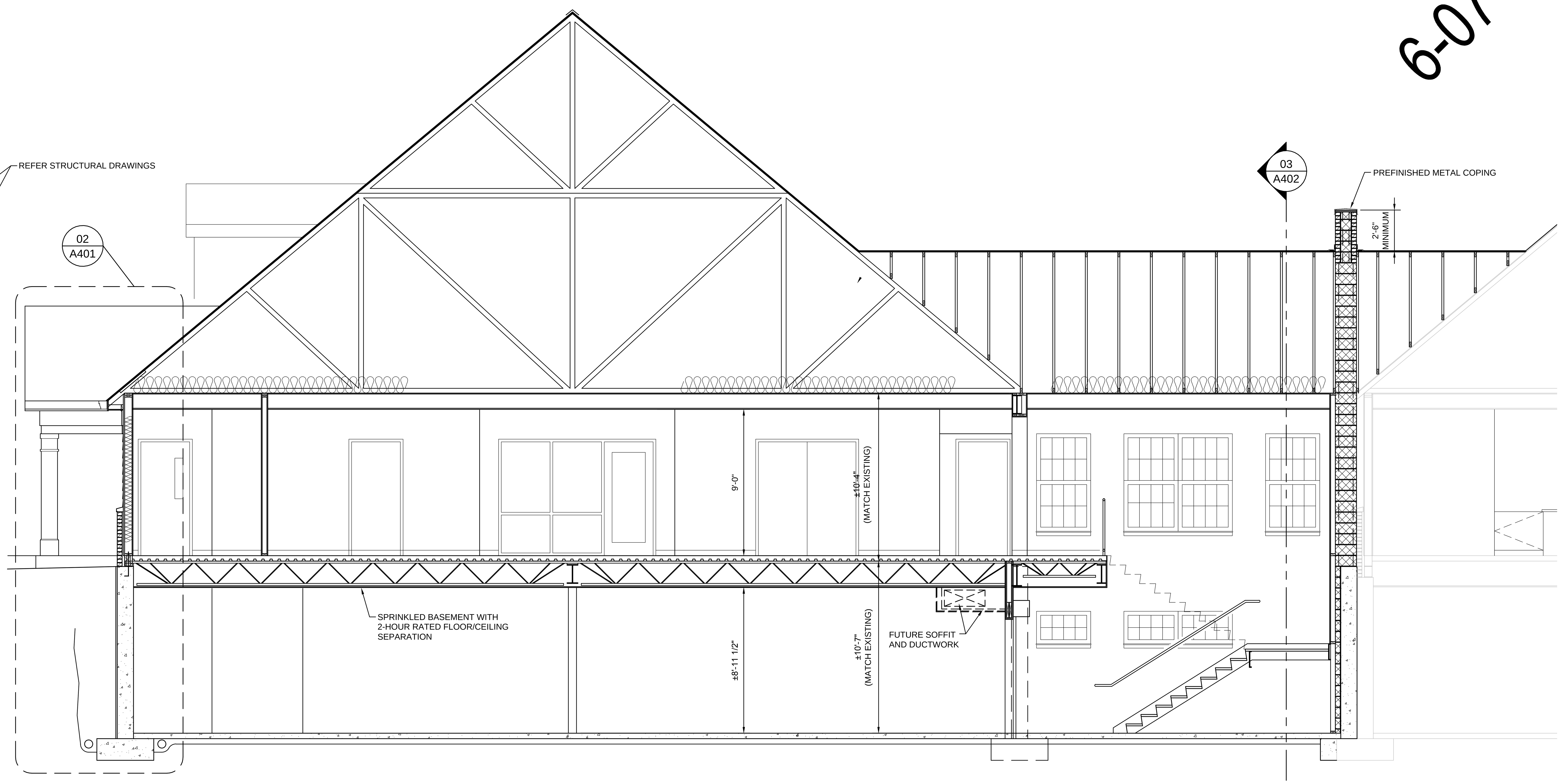
Centennial Bible Church
720 Liberty Drive, Westfield, Indiana

Sheet No.
A202

Project No.
12006



02 A401 **WALL SECTION**
SCALE: 3/4" = 1'-0"



01 A401 **BUILDING SECTION**
SCALE: 1/4" = 1'-0"

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Date XX-XX-XX

Revisions:

Scope Drawings
These drawings indicate the general scope of the project in terms of architectural design concept, the dimensions of building, the major architectural elements and, in some cases, the structural, mechanical, and/or electrical systems. The Drawings do not necessarily indicate or describe all work required for full performance and completion of the requirements of the Contract. On the basis of the general scope indicated or described, the trade contractors shall furnish all items required for the proper execution and completion of the work.

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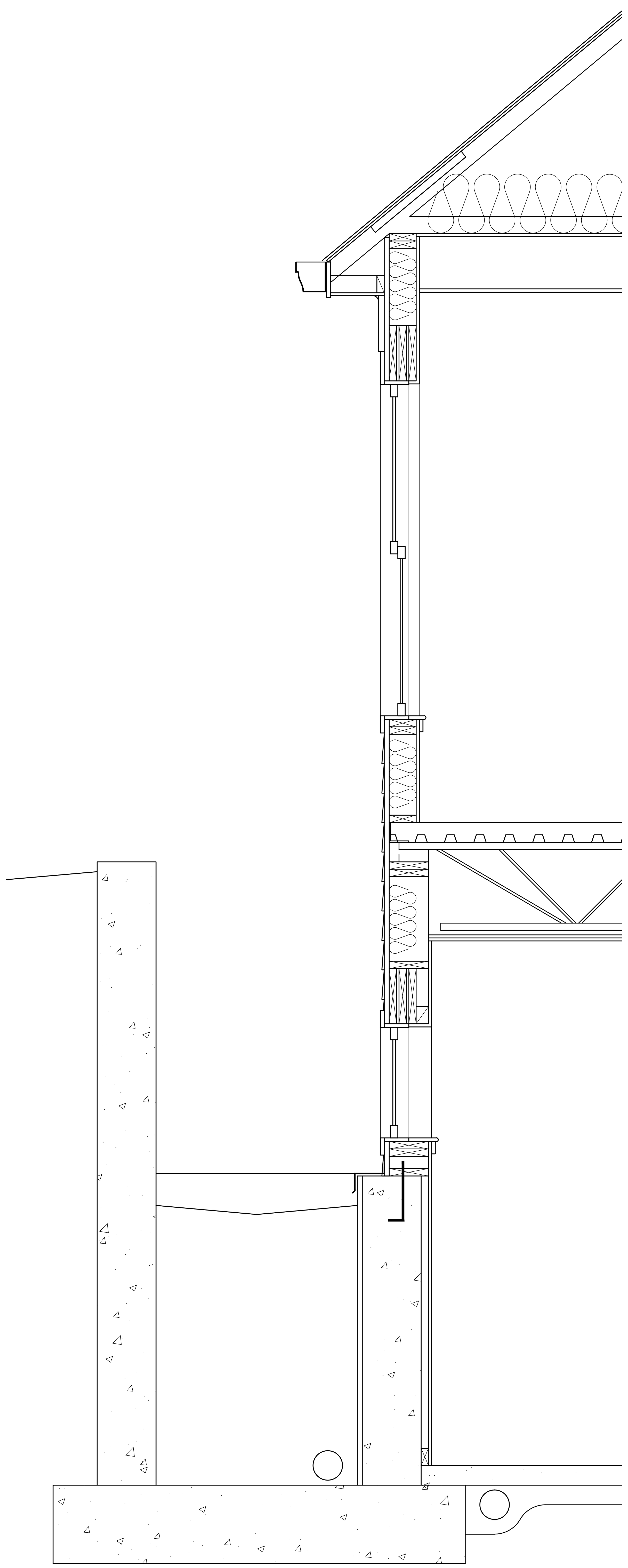
SECTIONS

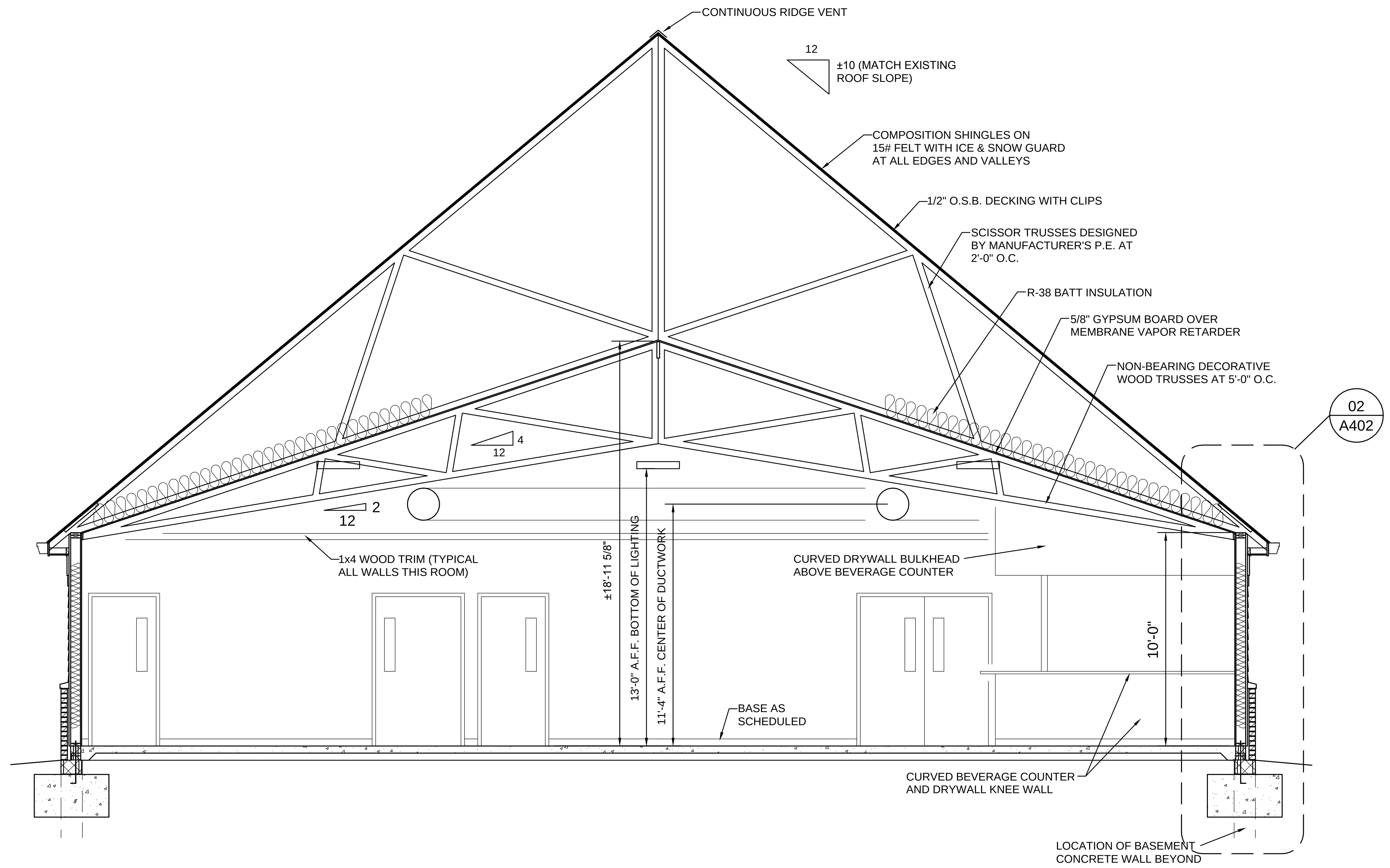
Centennial Bible Church
720 Liberty Drive, Westfield, Indiana

Sheet No.
A401

Project No.
12006

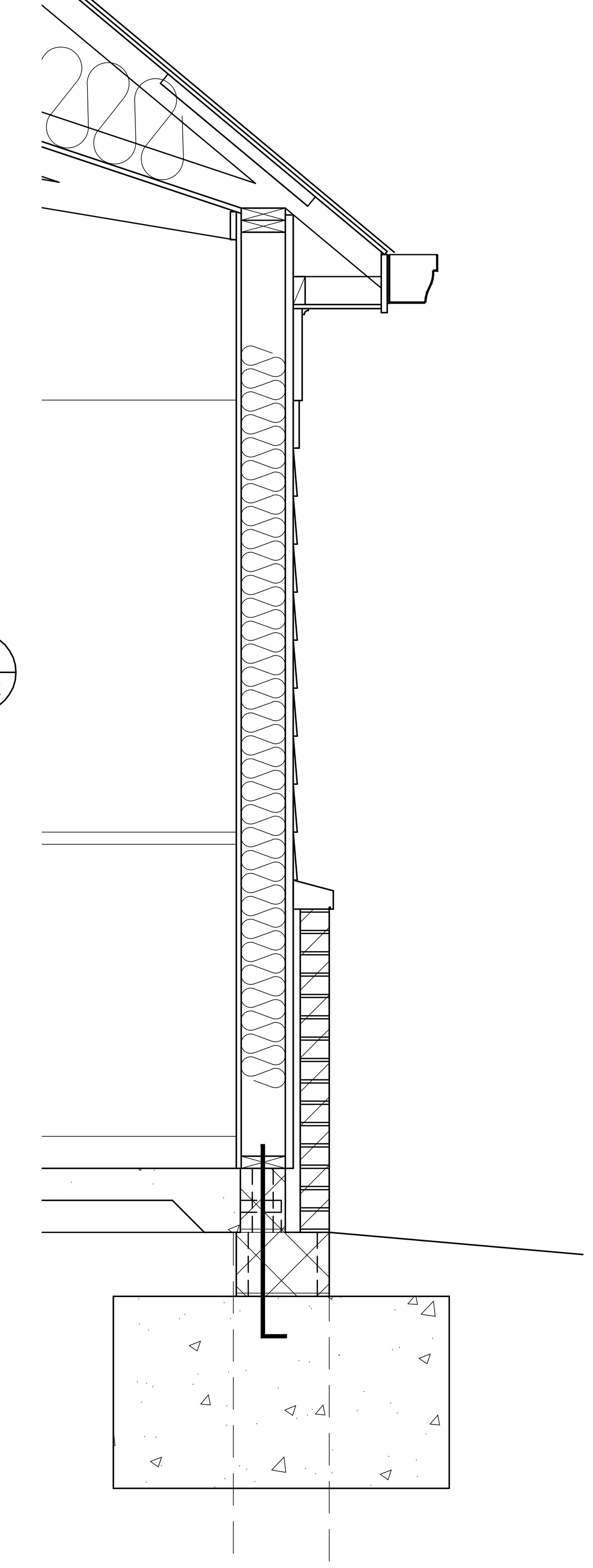


04 WALL SECTION
A402 SCALE: 3/4" = 1'-0"

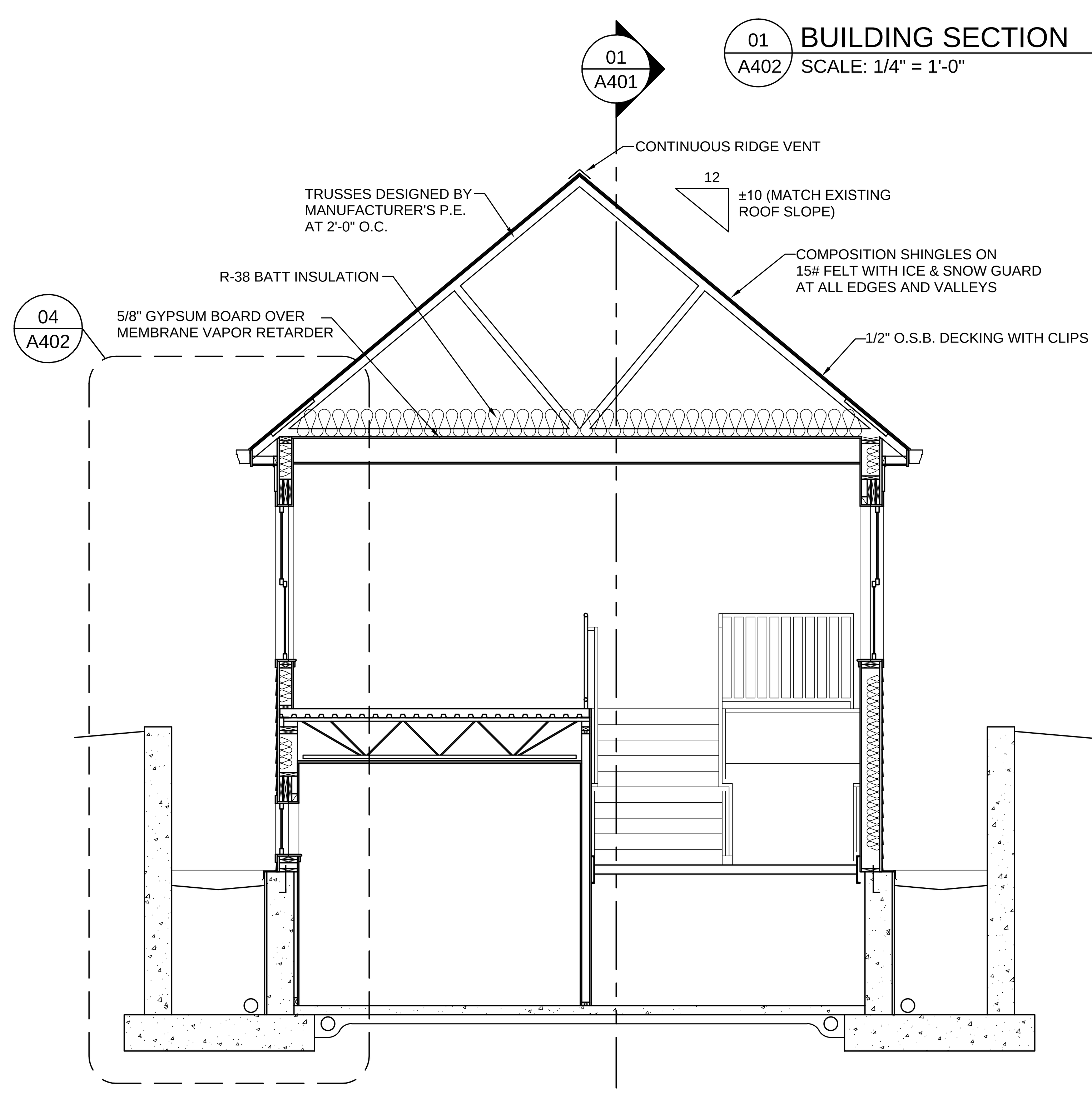


CONTINUOUS RIDGE VENT
12
±10 (MATCH EXISTING ROOF SLOPE)
COMPOSITION SHINGLES ON 15# FELT WITH ICE & SNOW GUARD AT ALL EDGES AND VALLEYS
1/2" O.S.B. DECKING WITH CLIPS
SCISSOR TRUSSES DESIGNED BY MANUFACTURER'S P.E. AT 2'-0" O.C.
R-38 BATT INSULATION
5/8" GYPSUM BOARD OVER MEMBRANE VAPOR RETARDER
NON-BEARING DECORATIVE WOOD TRUSSES AT 5'-0" O.C.
02
A402
4
12
2
12
1x4 WOOD TRIM (TYPICAL ALL WALLS THIS ROOM)
±18'-11 5/8"
13'-0" A.F.F. BOTTOM OF LIGHTING
11'-4" A.F.F. CENTER OF DUCTWORK
CURVED DRYWALL BULKHEAD ABOVE BEVERAGE COUNTER
10'-0"
BASE AS SCHEDULED
CURVED BEVERAGE COUNTER AND DRYWALL KNEE WALL
LOCATION OF BASEMENT CONCRETE WALL BEYOND

01 BUILDING SECTION
A402 SCALE: 1/4" = 1'-0"



02 WALL SECTION
A402 SCALE: 3/4" = 1'-0"



01
A401
CONTINUOUS RIDGE VENT
TRUSSES DESIGNED BY MANUFACTURER'S P.E. AT 2'-0" O.C.
12
±10 (MATCH EXISTING ROOF SLOPE)
R-38 BATT INSULATION
COMPOSITION SHINGLES ON 15# FELT WITH ICE & SNOW GUARD AT ALL EDGES AND VALLEYS
04
A402
5/8" GYPSUM BOARD OVER MEMBRANE VAPOR RETARDER
1/2" O.S.B. DECKING WITH CLIPS

03 BUILDING SECTION
A402 SCALE: 1/4" = 1'-0"

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SECTIONS

Centennial Bible Church
720 Liberty Drive, Westfield, Indiana

Sheet No.
A402

Project No.
12006

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	1	D	SINGLE	16000	0.840	D228-PA-150MH-GRN-L5

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Paved Add on Area	Illuminance	Fc	0.16	1.0	0.0	N.A.	N.A.

NOTES:
LIGHT LOSS FACTOR = 0.84
MOUNTING HEIGHT = 12'
FOOTCANDLE LEVELS CALCULATED AT GRADE.

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions.

This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps, and other variable field conditions.

CBMC LIGHTING DISTRIBUTION
5855 KOPETSKY DRIVE SUITE G
INDIANAPOLIS IN 46217
Tel. 317-780-8350 Fax. 317-780-8355
info@cbmcinc.com

LIGHTING LAYOUT FOR
Centennial Bible Church

SCALE: 3/32" = 1'-0"

STARTING DATE 7-30-12 | BY: SJM

drawing #
CB3927