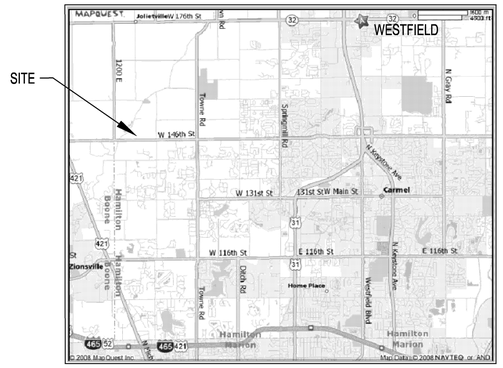
CONSTRUCTION PLANS FOR:
KOREAN FIRST PRESBYTERIAN CHURCH
PARKING LOT
WESTFIELD, IN



SITE VICINITY MAP

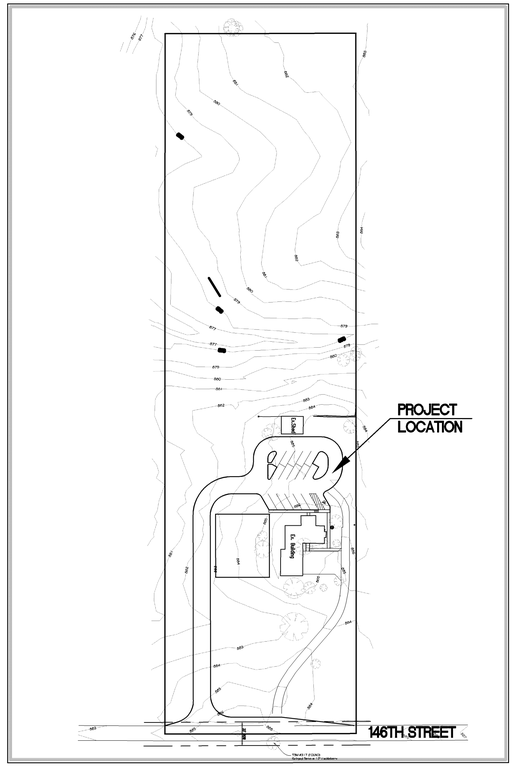
INDEX

REVISIONS

SHEET NO.	DESCRIPTION	DATE

"IT'S THE LAW"
2 WORKING DAYS BEFORE YOU DIG.

WITHIN INDIANA 1-800-382-5544
OUTSIDE INDIANA 1-800-428-5200
INDIANA UNDERGROUND PROTECTION SERVICE, INC.
PER INDIANA STATE LAW IC-8-1-26, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.



SITE LOCATION MAP

SCALE: 1" = 100'
0 50 100 200

BENCHMARK:

TBM #317 (FOUND)
Railroad Spike in 12" Hackleberry
w/tag labelled "885.64"
(unknown origin)

GENERAL NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINTED FROM THE RESPECTIVE CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION.
2. IT SHALL BE THE CONTRACTORS RESPONSIBLITY TO DETERMINTE THE EXACT LOCATION OF ALL EXISTING UTILITIES IN THE VICINITY OF THE CONSTRUCTION AREA PRIOR TO STARTING CONSTRUCTION.

PLANS PREPARED FOR:

Korean First Presbyterian Church
4040 W. 146th Street
Westfield, IN 46074
Telephone: (317) 409-9127
Contact Person: Pastor Paul Chang

PLANS PREPARED BY:

Beam, Longest and Neff, LLC
8126 Castleton Road
Indianapolis, IN 46250
Telephone: (317) 849-5832
Fax: (317) 841-4281
Contact Person: Max Mouser

OPERATING AUTHORITIES:

Hamilton County Surveyors Office
One Hamilton County Square Suite 146
Noblesville, IN 46060
(317) 776-8495

Hamilton County Health Dept.
One Hamilton County Square Suite 30
Noblesville, IN 46060
(317) 776-8850

Hamilton County Highway Dept.
1700 South 10th Street
Noblesville, IN 46060
(317) 773-7770

Westfiled Community Development
130 Penn Street
Westfield, IN 46074
(317) 896-5577

Westfiled Public Works Dept.
2706 East 171st Street
Westfield, IN 46074
(317) 896-5452

Westfield Fire Dept.
17535 Dartown Road
Westfield, IN 46074
(317) 896-2074

Westfiled Washington Schools
322 West Main Street
Westfield, IN 46074
(317) 896-2841

Vectren
16000 Allisonville Road
Noblesville, IN 46060
(317) 776-5534

Buckeye Partners
Tek Park 5
9999 Hamilton
Breinigsville, PA 18031

BLN Beam, Longest and Neff, LLC
Consulting Engineers, Land Surveyors, Land Planners & Landscape Architects
8126 Castleton Road, Indianapolis, IN 46250
Phone: 317.849.5832
Fax: 317.841.4281
www.B-L-N.com

PLAN DATE: 03-10-08
DWG FILE:
PROJ FILE PATH: FILE PATH
CHECK: WMS
DRAWN: WMS
FIELD:

REVISIONS AND ISSUES	DATE	BY

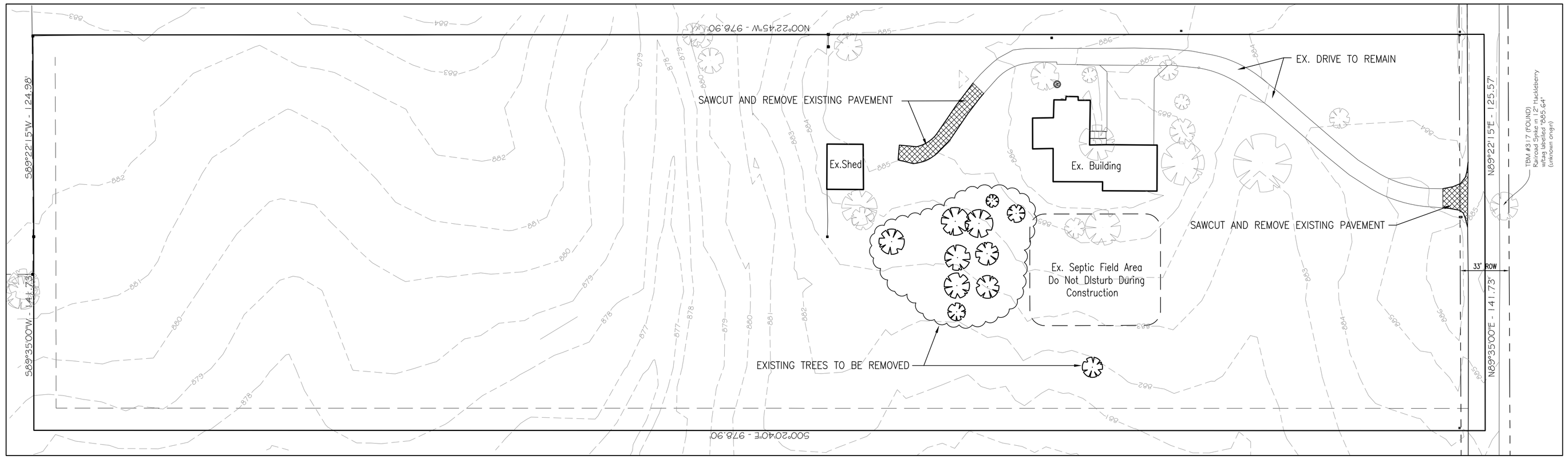
WILLIAM W. SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER

William W. Slike III
03.10.2008

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
APPROVAL PENDING
NOT FOR CONSTRUCTION
KOREAN FIRST PRESBETYRIAN CHURCH
COVER SHEET
HAMILTON COUNTY - WESTFIELD, INDIANA

SHEET NO.
C-0

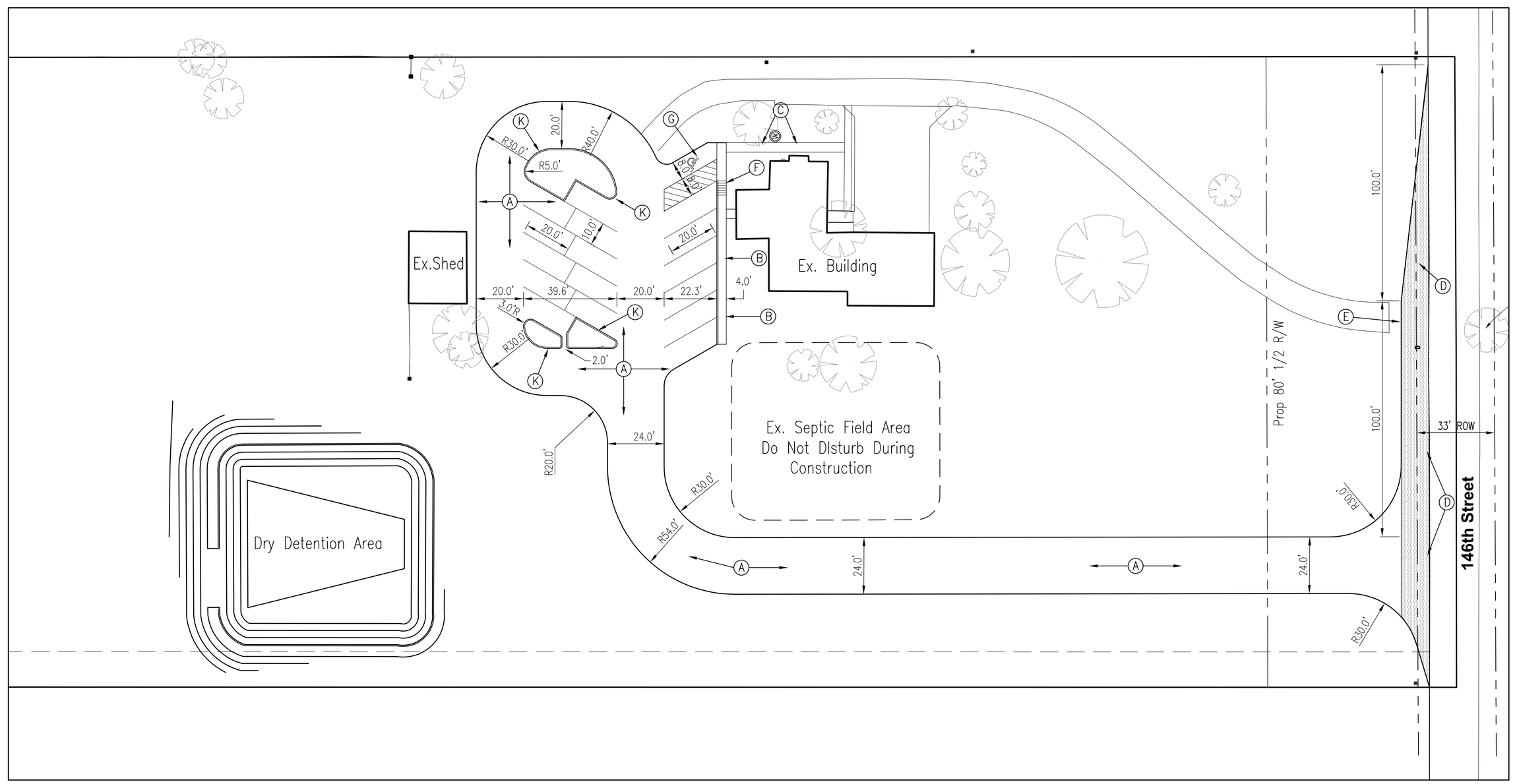
PROJECT NO.
070036



SCALE: 1" = 50'

0 25 50 100

EXISTING CONDITIONS/DEMOLITION PLAN



SCALE: 1" = 30'

0 15 30 60

SITE PLAN

GENERAL NOTES:

1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION.
2) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES IN THE VICINITY OF THE CONSTRUCTION AREA PRIOR TO STARTING CONSTRUCTION.
3) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY AND COORDINATE CONSTRUCTION WITH ALL RESPECTIVE UTILITIES.
4) ALL QUANTITIES GIVEN ON THESE PRINTS, VERBALLY OR IN THE SCOPE OF WORK SECTION ARE ESTIMATES AND SHALL BE CONFIRMED BY THE BIDDING CONTRACTORS.
5) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS; FINAL RULE 29 CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING FIVE (5) FEET IN DEPTH.
6) IN ADDITION, EXCAVATIONS EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRE THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.
7) IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND CONTRACTOR TO MAINTAIN QUALITY CONTROL THROUGHOUT THIS PROJECT.
8) TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL STANDARDS.
9) BEARINGS, DIMENSIONS, AND EASEMENTS ARE SHOWN FOR REFERENCE ONLY. SEE RECORD SURVEYS AND PLATS FOR EXACT INFORMATION.
10) ANY DRAINAGE TILE SYSTEM COMING ONTO THE SITE SHALL BE CONNECTED INTO THE PROPOSED DRAINAGE SYSTEM IN ORDER TO MAINTAIN POSITIVE DRAINAGE FOR THE OFFSITE SYSTEM.
11) ALL SANITARY MANHOLES IN NON-PAVED AREAS SHALL BE 3" ABOVE GRADE.
12) SEE ARCHITECTURAL PLANS FOR ALL UTILITY CONNECTIONS AT BUILDING.
13) ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

KEY NOTES:

(A) LIGHT DUTY PAVEMENT, SEE DETAIL SHEET
(B) INTEGRAL CURB AND SIDEWALK, SEE DETAIL SHEET
(C) CONCRETE WALK, SEE DETAIL SHEET
(D) PAVEMENT PER HAMILTON COUNTY ROW PAVEMENT SECTION
(E) MATCH EXISTING CURB/PAVEMENT ELEVATION
(F) TURNDOWN RAMP FOR ADA ACCESS, SEE DETAIL SHEET
(G) ADA PARKING SPACES, SYMBOL AND PAINT STRIPING, MAXIMUM 2% SLOPE ANY DIRECTION, SEE DETAIL SHEET
(K) 6" STRAIGHT CURB, SEE DETAIL SHEET

PARKING DATA

STANDARD SPACES:	17
ADA SPACES:	1
TOTAL SPACES:	18

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PER INDIANA STATE LAW (I.C.8-1-26), IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

BLN
Beam, Longest and Neff, LLC
Consulting Engineers, Land Surveyors, Land Planners & Landscape Architects
8126 Castleton Road, Indianapolis, IN 46250
Phone: 317.849.5832
www.BLN.com
Fax: 317.841.4281

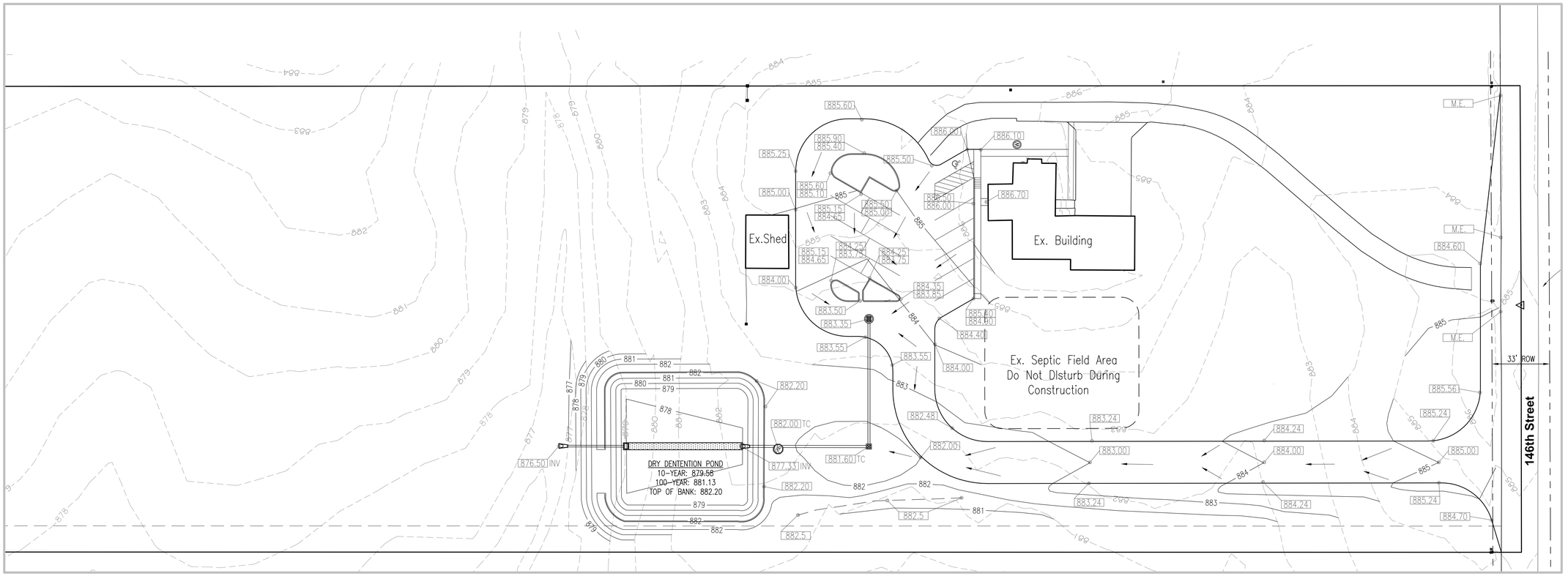
PLAN DATE: 03-10-08
DWG FILE:
PROJ-FILE PATH: FILE PATH
CHECK: WNS
DRAWN: WNS
FIELD:

DATE | BY | REVISIONS AND ISSUES

WILLIAM W SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER
William W. Slike III
03.10.2008

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
KOREAN FIRST PRESBETYRIAN CHURCH
APPROVAL PENDING NOT FOR CONSTRUCTION
EXISTING CONDITIONS/DEMOLITON AND SITE PLAN
HAMILTON COUNTY - WESTFIELD, INDIANA

SHEET NO. C-1
PROJECT NO. 070036

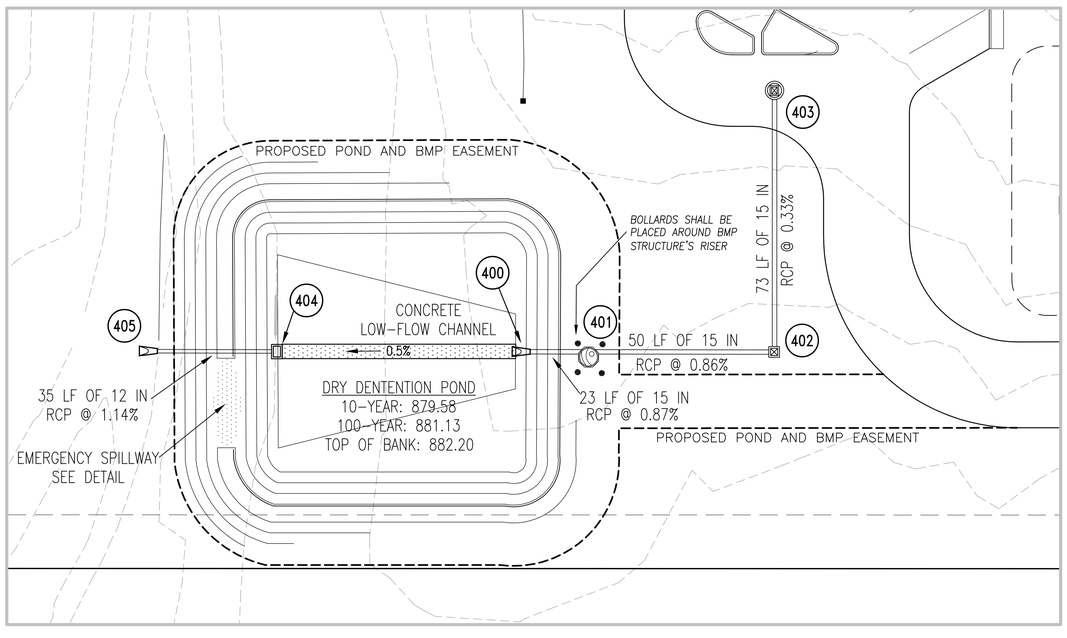


GRADING PLAN

SCALE: 1" = 30'

0 15 30 60

UTILITY PLAN



SCALE: 1" = 20'

0 10 20 40

STRUCTURE TABLE

STR NO.	STRUCTURE	CASTING			INVERT DATA				
	STR TYPE	REF. NO. NEENAH	TYPE	TC/GUTTER ELEV	INV. IN	INV. OUT	PIPE SIZE (in)	Meterial	DIR. OF PIPE
400	End Section	NA	NA	NA	877.33		15	RCP	S
401	Aqua-Swirl	NA	Aqua-Swirl Solid Lid	882.00	877.63		15	RCP	S
						877.53	15	RCP	N
402	30" x 30" Box	R-4215-C	Ditch/Bee-hive Inlet	881.60	878.16		15	RCP	E
						878.06	15	RCP	N
403	Manhole - See Detail	R-3405	Grate Inlet	833.35		878.40	15	RCP	W
404	See Pond Outlet Detial	R-3405	Grate Inlet	881.20		876.90	12	RCP	N
405	End Section	NA	NA	NA	876.50		12	RCP	S

ALL INLETS SHALL HAVE THE FOLOWING PHRASES CAST IN RECESSED LETTERS:
"STORM SEWER"
"DUMP NO WASTE, DRAINS TO WATERWAY"

"IT'S THE LAW"
2 WORKING DAYS BEFORE YOU DIG.

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LEGEND:

- = STORM SEWER LINE
- = STORM SEWER STRUCTURE
- = STORM SEWER INLET
- = C.E.S. – CONCRETE END SECTION
- = PROPOSED AQUA-SWIRL
- = 4" SUBSURFACE DRAIN
- = FLOW ARROW
- 785 = EXISTING CONTOURS
- 780 = PROPOSED CONTOURS
- = SWALE
- XXX.XXTC / XXX.XXGUT = PROPOSED ELEVATION (TOP OF CURB/CASTING) / PROPOSED ELEVATION (GUTTER)
- XXX.XXHP = PROPOSED ELEVATION (HIGH POINT)
- XXX.XX = PROPOSED ELEVATION (FINISHED GRADE)
- M.E. = MATCH EXISTING GRADE
- INV. = INVERT
- RCP = REINFORCED CONCRETE PIPE

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FIELD:	

REVISIONS AND ISSUES	BY	DATE

WILLIAM W SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER
William W. Slike III
03.10.2008

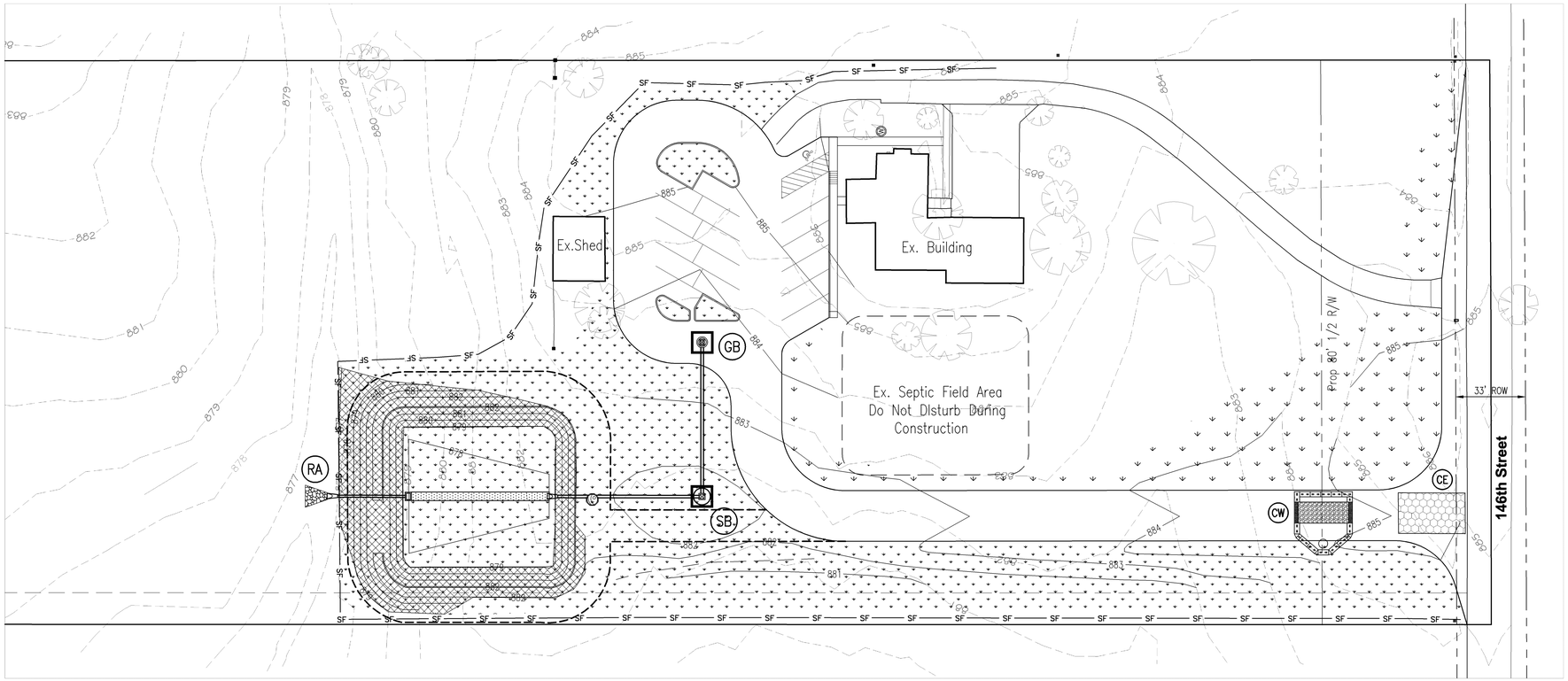
APPROVAL PENDING
NOT FOR CONSTRUCTION

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
KOREAN FIRST PRESBETYRIAN CHURCH

GRADING AND UTILITY PLAN
HAMILTON COUNTY - WESTFIELD, INDIANA

SHEET NO.
C-2

PROJECT NO.
070036



LEGEND

- (SB) – SILT FENCE BOX
- (GB) – GRAVELBAG INLET PROTECTION
- (RA) – ROCK CHUTE OUTLET PROTECTION
- – PERMANENT SEEDING USE PLANTING CHART ON SHEET C505
- – EROSION CONTROL BLANKET WITH PERMANENT SEEDING – USE STAPLE PATTERN N.A.G. S75 IN SWALE S150 ON LAKE SLOPES
- (CE) – CONSTRUCTION ENTRANCE (12" OF #2 STONE ON FILTER FABRIC)
- (CW) – CONCRETE WASHOUT AREA
- —SF— – SILT FENCE

SCALE: 1" = 30'
0 15 30 60

ASSESSMENT OF CONSTRUCTION PLAN ELEMENTS:

A3 Project Description
The Korean First Presbyterian Church, located in Westfield, Indiana, is proposing to add an approximate 0.27 acre parking lot, along with a new 380 foot long access road to the Church off 146th Street. The propose project site is located in the south half of this property, containing roughly 3.25 acres.

A5 Legal Description
Part of the South Half of Section 18, Township 18 North, Range 3 East in Washington Township, Hamilton County, Indiana, being more particularly described as follows:

Beginning at the Southwest corner of the Southeast Quarter of Section 18, Township 18 North, Range 3 East; thence North 89 degrees 22 minutes 15 seconds East (assumed bearing) on the South line thereof 125.57 feet; thence North 00 degrees 22 minutes 45 seconds West 978.90 feet; thence South 89 degrees 22 minutes 15 seconds West parallel with the South line of said Quarter 124.98 feet to the East line of the Southwest Quarter of Section 18, thence South 89 degrees 35 minutes 00 seconds West parallel with the South line of said Southwest Quarter 141.73 feet; thence South 00 degrees 20 minutes 40 seconds East parallel with the East line of said Southwest Quarter 978.90 feet to the South line of said Quarter; thence North 89 degrees 35 minutes 00 seconds East on said South line 141.73 feet to the beginning point.

(Longitude 86°13'52.7"W and Latitude 39°59'59.6"N).

A7 Hydrologic Unit Code

Unit Code: 05120201120070

A8 State or Federal Water Quality Permits

This project does not require any state or federal water quality permits.

A9 Identification of Storm Water Discharges

The developed site will drain into a proposed dry detention pond. The detention pond will release into a dry ditch located in the middle of the property, just north of the project site. The ditch drains west into Little Eagle Creek.

A10 Nearby Watercourses and Lakes

The project site is located 623 feet east from Little Eagle Creek, and 1230 feet northeast from Bear Creek.

A11 Receiving Waters

The detention pond will release into a dry ditch located in the middle of the property, just north of the project site. The ditch drains west into Little Eagle Creek.

A12 Potential Discharges to Groundwater

There are no concerns with this project. Normal percolation of the water from the grass areas will occur to the water table.

A13 100 Year Floodplains, Floodways, and Floodway Fringes

There are no floodplains, floodways, or floodway fringes on the area of the site that construction will be performed.

A14 Storm Water Runoff Discharge Summary

The existing and post condition storm runoff for the 2, 10, and 100 year storm events for each watershed are presented below. NRCS Type II Rainfall Distributions were used to calculate the peak runoff for these storm durations. NRCS TR-55 time of concentration and curve number calculation methodologies and the 24-hour

A14 Storm Water Runoff Discharge Summary

The existing and post condition storm runoff for the 2, 10, and 100 year storm events for each watershed are presented below. NRCS TR-55 time of concentration and curve number calculation methodologies and the 24-hour NRCS Type II Rainfall Distributions were used to calculate the peak runoff for these storm durations.

Watersheds	Storm Runoff / Storm Events (cfs) 2-year	10-year	100-year	Area (ac)
North	0.41	0.86	2.03	0.605
West	0.93	2.24	5.83	2.213
Northeast	0.07	0.14	0.32	0.095
Southeast	0.11	0.3	0.81	0.341
Entire Site	1.43	3.39	8.67	3.254

Peak Storm Runoff Summary for Existing Conditions

Watersheds	Storm Runoff / Storm Events (cfs) 2-year	10-year	100-year	Area (ac)
North	0.22	0.46	1.08	0.323
West	0.37	0.67	1.4	0.368
Central	1.79	3.47	7.61	2.252
Southeast	0.14	0.32	0.82	0.313
Entire Site	2.47	4.85	10.76	3.256

Peak Storm Runoff Summary for Post Conditions

A15 Adjacent Land Use

North: Residential / South: Residential – Farmfield / East: Residential–Grass Yard / West: Residential

A18 Site Soils Information

The Soil Survey obtained from the Natural Resources Conservation Services (NCRS) website indicates Brookston and Crosby onsite. Table 1 provides data on these soils.

Table 1 – Soils Data

Soil ID/Code:	Br	CrA
Soil Group:	Brookston	Crosby
Hydrologic Group:	B	C
Flooding:	None	None
Depth to Restrictive Layer:	No Concern	20" to 40"
Depth to Water Table:	0" to 12"	6" to 24"
Erosion Factor K:	0.24	0.43
Erosion Factor T:	5	4

A20 Off Site Construction Activities

All areas of the construction are shown on the erosion control plans and are located on the project site.

CONSTRUCTION COMPONENTS

B1 Construction Potential Pollutant Sources

The main sources of pollution during construction will be silt, construction materials, and petroleum products used in construction equipment. Erosion and sediment control measures will be put in place before construction begins to minimize the possibility of silt entering stormwater. The contractor is to cover all material storage areas before any expected rainfall event to prevent pollution of stormwater from construction materials. The contractor is to maintain a fueling and servicing area to minimize the danger of pollutants entering stormwater from construction equipment. Instructions for the fueling and servicing area are provided section XIII – Material Handling and Spill Prevention.

B2 Sequence of Construction

The following is the sequence of construction. See the construction plans for additional information on sequencing.

1. The stabilized construction entrance shall be installed prior to beginning other earth disturbing activities.
2. Perimeter protection, silt fences, diversion berms/swales, rock filters, and inlet protection for existing storm inlets also shall be installed prior to starting other earth disturbing activities.
3. Whenever possible, erosion and sediment control measures shall be constructed and installed prior to performing other earth disturbing activities.
4. Minimize erosion from exposed areas by providing and maintaining temporary or permanent stabilization measures. Erosion control measures to protect exposed areas shall be installed at the end of the day's work or within 24 hours of the completion of the earth disturbing activity, as applicable for the type of measure.
5. All disturbed areas shall be seeded and/or stabilized upon completion of the earth disturbing activity.
6. All graded areas, (lawns, banks, mounds, etc.) with slopes equal to or steeper than 6H:1V shall be stabilized with an erosion control blanket. All constructed swale channels shall be stabilized with an erosion control blanket to the top of the bank. Soils stockpiles shall be seeded and mulched to minimize erosion.
7. All other lawn and planting areas shall be seeded and stabilized with an anchored, crimped or tackified mulch and seed mixture.
8. Areas to be paved shall be stabilized with a temporary stone cover. The temporary stone stabilization shall be equivalent to the proposed stone sub-base material. Adequate sub-base depths shall be maintained during construction verified and restored, if necessary, prior to final paving. Stone stabilization shall be installed per the paving specifications and details.
9. Install pipe and grate inlet protection measures and pipe outlet protection as new pipes or pipe extensions are installed. Limit excavation to the work that can be performed that day. Trenches shall be seeded and mulched as part of the backfill operation.
10. Wrap all grates with filter fabric to prevent debris and sediment from entering storm system. Check weekly and after each storm event for debris and sediment. Clear blockages as identified. Torn or damaged fabric shall be replaced.
11. All disturbed areas where work will potentially cease for 15 days or longer shall be seeded and stabilized immediately upon completion of the activity.
12. Erosion and sediment control measures shall be maintained until the area of the work is 95% stabilized.

B3 B12 Construction Measures
All erosion control measures listed for these items used with this plan are shown in the construction set of drawings.

B13 Material Handling and Spill Prevention

The contractor shall provide a central area for fueling and servicing of equipment. This area shall be contained with a row of staked straw bales around the perimeter. Secondary containment in the form of drip pans or drop cloths shall be used to contain any spills. The contractor shall maintain a supply of oil-absorbent material to clean up any small spills that may occur. Used absorbent material shall be removed from the site and disposed of in accordance with the laws of the State of Indiana.

B14 Monitoring and Maintenance Guidelines

The detail for each Erosion and Sediment Control Practice used within the plans lists the specific guidelines for the maintenance of each type of practice used.

B15 Practices for Individual Building Lots

There are no individual building lots. The Erosion and Sediment Control Practices pertain the entire project site.

STORM WATER POLLUTION PREVENTION PLAN

POST CONSTRUCTION COMPONENTS

C1 Post Construction Potential Pollutant Sources

The majority of the post construction potential pollutant sources for this project are oil, grease, antifreeze, brake fluid, brake dust, rubber fragments, gasoline, and other hydrocarbons from vehicles. Other potential pollutants could include sediment from wearing of the road surface and washing or falling off of vehicles, trash from littering and other types of improper disposal and storage, and elevated receiving water temperatures from stormwater runoff contact with impervious surfaces.

C2 Post Construction Storm Water Quality Measure Implementation

TThe water quality treatment system will need to be designed to treat the runoff per the water quality standards, set forth in the City of Westfield Stormwater Technical Standards Manual. An Aqua-Swirl Concentrator Model AS-3 CFD (Structure 401) as manufactured by AquaShield is proposed as the BMP for the treatment of the stormwater for this site.

C3 Post Construction Stormwater Quality Measures

This project was designed to minimize pollutants and the impact on the receiving waters and the surrounding environment. The Aqua-Swirl, will settle out the suspended solids and eliminate the floatable material from leaving the site. The BMP has been designed in accordance to the City of Westfield Stormwater Technical Standards Manual.

C5 Post Construction Stormwater Quality Measures Maintenance

Inlets and pipes will need to be inspected and cleaned on a regular basis as conditions warrant. The Aqua-Swirl structures will need to be monitored and cleaned as needed and required by the O&M Manual. An Operation and Maintenance Manual (O&M Manual) for the Aqua-Swirl structure has be compiled and supplied to the owner. The Aqua-Swirl will be maintained by the owner.

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STATE OF INDIANA
PROFESSIONAL ENGINEER
William W. Slike III
03.10.2008

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
APPROVAL PENDING NOT FOR CONSTRUCTION
KOREAN FIRST PRESBETYRIAN CHURCH
EROSION CONTROL PLAN AND SWPPP
HAMILTON COUNTY – WESTFIELD, INDIANA

SHEET NO.
C-3
PROJECT NO.
070036

SEASONAL SOIL PROTECTION CHART:

STABILIZATION PRACTICE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	DEC	NOV
PREMANENT SEEDING			A			*/////////*				*///		
DORMANT SEEDING	B									B		
TEMPORARY SEEDING			C			E */////////*			D			
SODDING						F** */////////*						
MULCHING	G											

A = KENTUCKY BLUEGRASS 40 LBS/ACRE; CREEPING RED FESCUE 40 LBS/ACRE; PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 20 LBS/ACRE.

B = KENTUCKY BLUEGRASS 60 LBS/ACRE; CREEPING RED FESCUE 60 LBS/ACRE; PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 30 LBS/ACRE.

C = SPRING OATS 3 BUSHEL/ACRE

D = WHEAT OR RYE 2 BUSHEL/ACRE

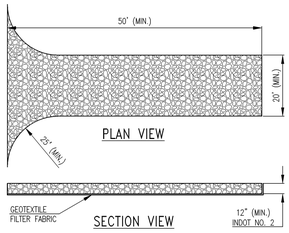
E = ANNUAL RYEGRASS 40 LBS/ACRE

F = SOD

G = STRAW MULCH 2 TONS/ACRE

*/// = IRRIGATION NEEDED DURING JUNE, JULY, AUGUST AND/OR SEPTEMBER

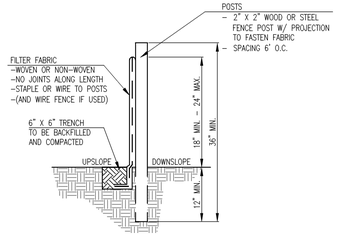
** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD



MAINTENANCE:
1. INSPECT WEEKLY, AND AFTER EACH STORM EVENT OR HEAVY USE.
2. RESHAPE AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS REQUIRED. MAINTAIN MINIMUM DEPTH THROUGHOUT CONSTRUCTION.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY SWEEPING OR BRUSHING. (DO NOT FLUSH AREA WITH WATER.)
5. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

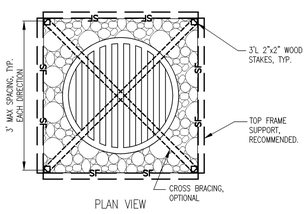


INSTALLATION:
1. THE BOTTOM 1' OF THE FENCE SHALL BE BURIED IN THE TRENCH ON THE UPSLOPE SIDE.
2. FENCE SHALL BE INSTALLED ALONG LEVEL GRADES, NOT ACROSS FLOW CHANNELS.
3. IF OPTIONAL SUPPORT WIRE FENCE IS USED, POST SPACING MAY BE EXTENDED TO 8' O.C.

MAINTENANCE:
1. INSPECT SILT FENCE PERIODICALLY (WEEKLY) AND AFTER EACH STORM EVENT.
2. IF FABRIC IS TORN OR DAMAGED OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE, OR IT IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE NOT TO UNDERMINE THE FENCE DURING SEDIMENT REMOVAL.
5. AFTER THE CONTRIBUTING AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND REMAINING SEDIMENT, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

SILT FENCE SECTION

NOT TO SCALE

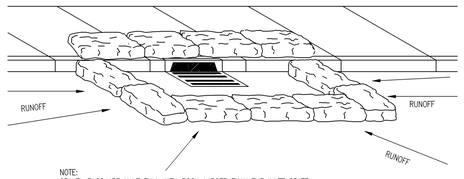


Installation:
1. Cut fence fabric from a single roll to eliminate joints. Use a minimum overlap 2' if a joint is needed.
2. Bury 12" of fence fabric per the Silt Fence Section Detail, this sheet.
3. Space support evenly, with a maximum spacing of 3'.
4. Supports shall abut the inlet perimeter where ever possible. Provide a 4" bed of no. 2 stone where overflow falls to unprotected soil.
5. Prefabricated welded wire structures are acceptable.

Maintenance:
1. Inspect fence periodically (weekly) and after each storm event.
2. If fence is damaged, repair or replace it immediately.
3. Remove deposited sediment when it reaches one third of the height of fence.
4. Take care not to undermine the fence during sediment removal.
5. After the contributing area has been stabilized, remove the fence and remaining sediment, bring the disturbed area to grade, and stabilize.

SILT FENCE INLET PROTECTION

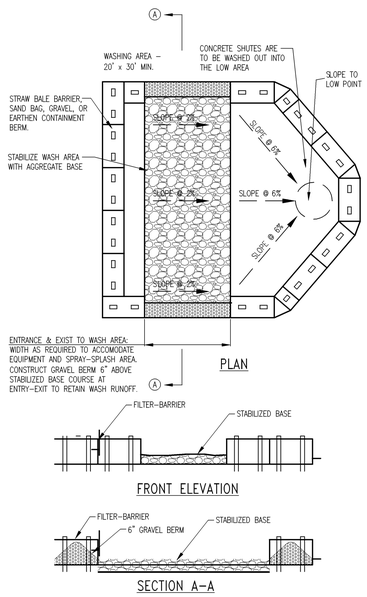
NOT TO SCALE



NOTE:
GRAVEL BAGS ARE HALF FULL WITH ROCK LARGER THAN THE INLET GRATE AND PACKED CLOSE TOGETHER TO ELIMINATE GAPS. IF BAG DETERIORATES OR IS DAMAGED, REBAG OLD BAG WITH CONTENTS INTO A NEW BAG.

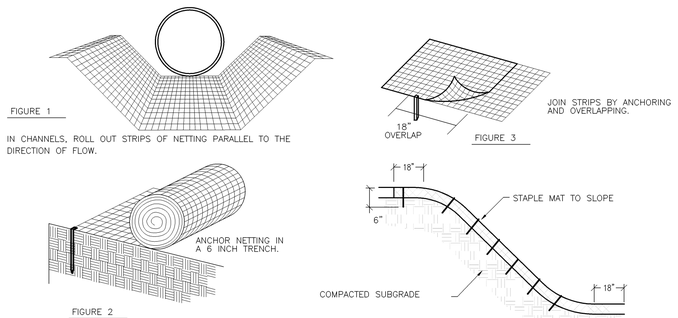
GRAVEL BAG CURB INLET PROTECTION

NO SCALE



CONCRETE WASHOUT AREA

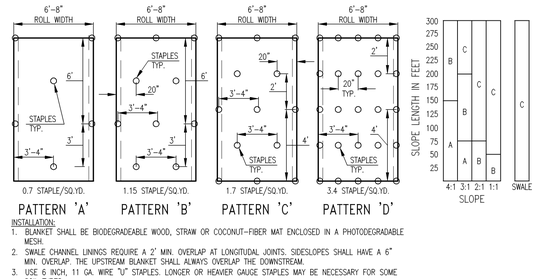
NOT TO SCALE



NOTE:
CONTRACTOR SHALL USE NORTH AMERICAN GREEN SC150 BLANKET OR APPROVED ALTERNATE.

EROSION CONTROL BLANKET

NOT TO SCALE

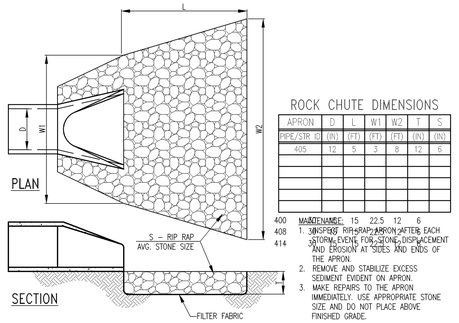


INSTALLATION:
1. BLANKET SHALL BE BIODEGRADEABLE WOOD, STRAW OR COCONUT–FIBER MAT ENCLOSED IN A PHOTODEGRADABLE MESH.
2. SWALE CHANNEL LININGS REQUIRE A 2' MIN. OVERLAP AT LONGITUDAL JOINTS. SIDESLOPES SHALL HAVE A 6" MIN. OVERLAP. THE UPSTREAM BLANKET SHALL ALWAYS OVERLAP THE DOWNSTREAM.
3. USE 6 INCH, 11 GA. WIRE "U" STAPLES. LONGER OR HEAVIER GAUGE STAPLES MAY BE NECESSARY FOR SOME SOIL TYPES.
4. USE STAPLE PATTERN INDICATED OR MANUFACTURER'S RECOMMENDATION, WHICHEVER REQUIRES THE GREATER STAPLE FREQUENCY.
5. STAPLE PATTERNS SHOWN APPLY TO NORTH AMERICAN GREEN BLANKETS. STAPLE PATTERNS MAY VARY BASED ON SOIL CONDITIONS AND RAINFALL AMOUNTS. INSTALL OTHER BLANKETS ARE INSTALLED FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

MAINTENANCE:
1. INSPECT WEEKLY, AND AFTER EACH STORM EVENT. ESPECIALLY AT THE EDGES OF BLANKETS WHERE EROSION MAY UNDERCUT THE MATERIAL.
2. REPAIR AND REPLACE DAMAGED MATERIAL AND ERODED BASE AREAS IMMEDIATELY.
3. RESTAPLE AND RESECURE AS NEEDED FOR EROSION CONTROL.

EROSION CONTROL BLANKETS

NOT TO SCALE – PRACTICE 3.17



ROCK CHUTE DIMENSIONS

APRON	D	L	W1	W2	T	S
PIPE/STR ID	(IN)	(FT)	(FT)	(FT)	(IN)	(IN)
405	12	5	3	8	12	6
400						
408						
414						

MAINTENANCE: 15 22.5 12 6
1. INSPECT RIP–RAP APRON AFTER EACH STORM EVENT FOR STONE DISPLACEMENT AND EROSION AT SIDES AND ENDS OF THE APRON.
2. REMOVE AND STABILIZE EXCESS SEDIMENT EVIDENT ON APRON.
3. MAKE REPAIRS TO THE APRON IMMEDIATELY. USE APPROPRIATE STONE SIZE AND DO NOT PLACE ABOVE FINISHED GRADE.

ROCK CHUTE - OUTLET PROTECTION

NOT TO SCALE – PRACTICE 3.41

General Erosion and Sediment Control Notes

1. All erosion and sediment control practices shall be in accordance with the Indiana Handbook for Erosion Control in Developing Areas from the Division of Soil Conservation, Indiana Department of Natural Resources.
2. A copy of this Erosion and Sediment Control Plan and the Erosion and Sediment Control Report shall be available at the Project Site throughout the entire construction period.
3. The Contractor shall control waste, garbage, debris, wastewater, and other substances on the site so they will not be transported from the site by the action of wind, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building material appropriate to the nature of the waste or material is required.
4. Public or private roadways shall be kept clear of accumulated sediment. All sediment that is cleared must be returned to the likely point of origin or other suitable location. Clearing of large amounts of sediment shall not include flushing the area with water.
5. Minimize the exposure of bare earth by limiting the work area to that necessary to perform the Work, and by proper scheduling of manpower and equipment.
6. All erosion and sediment control measures shall be inspected, cleaned, and maintained following each storm event.
7. Wherever possible, maintain existing vegetative cover. Use non–vegetative material including mulch, erosion blankets, or stone to control erosion from disturbed areas.

General Erosion and Sediment Staging Notes

1. The stabilized construction entrance and filter inlet protection for existing storm inlets and pipes shall be installed prior to beginning other earth disturbing activities.
2. Perimeter protection, silt fences, diversion berms/swales, rock filters, also shall be installed prior to starting other earth disturbing activities.
3. Whenever possible, erosion and sediment control measures shall be constructed and installed prior to performing other earth disturbing activities.
4. Minimize erosion from exposed areas by providing and maintaining temporary or permanent stabilization measures. Erosion control measures to protect exposed areas shall be installed at the end of the day's work or within 24 hours of the completion of the earth disturbing activity, as applicable for the type of measure.
5. All disturbed areas shall be seeded and/or stabilized upon completion of the earth disturbing activity.
6. All seeded areas shall be stabilized per the Specifications. Seeded and planted areas shall be stabilized with an anchored, crimped or tackified mulch and seed mixture.
7. All graded areas, (lawns, basins, swales, etc.) with slopes equal to or steeper than 6H:1V shall be stabilized with an erosion control blanket per the Project Specifications. Constructed landscaping mounds shall be stabilized with an erosion control blanket. Soil stockpiles shall be seeded and mulched to minimize erosion.
8. Areas to be paved shall be stabilized with a temporary stone cover. The temporary stone stabilization shall be equivelent to the proposed stone sub–base material. Adequate sub–base depths shall be maintained during construction and provided prior to final paving. Stone stabilization shall be installed per the paving specifications and details.
9. Install pipe and grate inlet protection measures and pipe outlet protection as new pipes or pipe extensions are installed. Limit excavation to the work that can be performed that day. Trenches shall be seeded and mulched as part of the backfill operation.
10. Wrap all grates with filter fabric to prevent debris and sediment from entering storm system. Check weekly and after each storm event for debris and sediment. Clear blockages as identified. Torn or damaged fabric shall be replaced.
11. Temporarily seed and stabilize all disturbed areas where work will cease for 5 days or longer.
12. Erosion and sediment control measures shall be maintained until the area of the Work is 95% stabilized.

Spill Prevention Plan

All fueling and servicing of vehicles on site will be conducted near the construction entrance/staging area. This area shall be contained with a row of staked straw bales around the perimeter. Secondary containment in the form of drip pans or drop cloths shall be used to contain any spills. The contractor shall maintain a supply of oil–absorbent material to clean up any small spills that may occur. Any spillage will be removed immediately. Used absorbent material shall be removed from the site and disposed of in accordance with the laws of the State of Indiana. Contaminated soils will be placed on heavy plastic and covered or placed into approved containers to prevent contact with storm water. All fuel tanks will be in the containment area. Oils, other vehicle fluids, paints and solvents will be stored in the construction trailer. Any spill in excess of two gallons will be reported to a representative of the contractor.

If a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302 occurs during a 24–hour period, the contractor will immediately notify the permittee who shall then do the following: notify the National Response Center (NRC) (800–424–8802) and the Indiana State Emergency Management Agency (317–232–3986); as well as the Hamilton County EMA (317–327–3900). Also, the engineer will prepare a revision to this document to identify measures to prevent the reoccurrence of such releases.

Concrete trucks will wash out at the designated area near the construction entrance. The contractor shall take care to insure that no waste materials are discharged into the waters of the state. Each contractor is responsible to provide litter control for trash generated by his crew. All trash including but not limited to, solid waste, paint cans, oil cans, used oil and filters will be contained and disposed of by the contractor in accordance with the laws and regulations of the State of Indiana and the City of Westfield. The contractor shall furnish and maintain sanitary facilities for this project. The facilities shall be cleaned as necessary and the waste materials shall be disposed of in accordance with the laws and regulations of the State of Indiana and the City of Westfield.

Notes:

1) Additional erosion control measures may be required by the field inspector.
2) There shall be no dirt, debris, or storage of materials in the street.

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Phone: 317.849.3832
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www.B-L-N.com

PLAN DATE: 03-10-08
DWG FILE:
PROJ FILE PATH: FILE PATH
CHECK: WNS
DRAWN: WNS
FIELD:

NO.	DESCRIPTION	DATE	BY
	REVISIONS AND ISSUES		

WILLIAM W. SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER

William W. Slike III
03.10.2008

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
KOREAN FIRST PRESBETYRIAN CHURCH
HAMILTON COUNTY – WESTFIELD, INDIANA

APPROVAL PENDING
NOT FOR CONSTRUCTION

EROSION CONTROL DETAILS AND SPECIFICATOINS

SHEET NO.
C-3.1

PROJECT NO.
070036

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.

1. In general the items of work to be performed under this section shall include clearing and grubbing, removal of trees and stumps (where required), protection of trees to remain, stripping and storage of topsoil, fill, compaction and rough grading of entire site as indicated on the drawings.

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 approved by the Engineer & 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.

B. Work not included: The following items of related work are specified and included in other sections of these specifications.

1. Excavation, grading and backfilling for utility lines.
2. Storm drainage systems.
3. Sanitary sewer systems.
4. Water supply systems.
5. Drives and paving.

2. BENCHMARKS

Maintain carefully all bench marks, monuments and other reference points, if disturbed or destroyed replace as directed by engineer.

3. REMOVAL OF TREES

A. Remove all trees and stumps from area to be occupied by road and surfaced areas. Removal of trees outside these areas shall only be done as noted on drawings or approved by the Owner.

B. All brush, stumps, wood and other refuse from the trees shall be removed from site or burned with proper permits (where applicable).

4. PROTECTION OF TREES

A. General Protection: the Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain. Existing trees subject to construction damage shall be boxed, fenced or otherwise protected before any work is started, do not stockpile within branch spread. Remove interfering branches without injury to trunks and cover scars with tree paint.

5. STRIPPING OF TOPSOIL

A. Remove topsoil to a depth of 6 inches (or more if required) from the areas to be occupied by roads, walks, buildings, and parking areas. Pile and store topsoil at a location where it will not interfere with construction operations. Top soil shall be reasonably free from subsoil, debris and stones.

6. DISPOSITION OF UTILITIES

A. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.

B. It Shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineers of any changes, errors or omissions found on these plans or in the field before work is started or resumes.

C. Where active utilities are encountered but not shown on the drawings, the Engineer shall be advised before work is continued.

D. 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 Engineer.

7. SITE GRADING

A. Grades: Do all cutting, filling, compacting of fills and rough grading required to bring entire project area to subgrade as shown on the drawings. Undercut open areas 4" for topsoil.

B. Rough grading: the tolerance for paved areas shall not exceed 0.10 feet above established subgrade. all other areas shall not exceed 0.10 feet plus or minus the established grade. Provide roundings at top and bottom of banks and other breaks in grade. All open areas shall be graded a minimum of 0.5% and a maximum of 3:1 slope.

C. Subgrade shall be proof rolled with suitable equipment and all spongy and otherwise unsuitable material shall be removed and replaced with suitable material.

D. Subgrade for streets and paved areas shall be compacted to 100% of standard proctor in the upper 6" of depth. Depths of embankment below the upper 6" shall be compacted to 95% of standard proctor.

E. See PAVING section also.

F. All fill material shall be formed from soil free of deleterious material. Prior to placement of fill, a sample of the proposed material shall be submitted to the soils engineer for approval. The fill material shall be placed in layers not to exceed 8" in loose thickness and shall be spread and compacted at the proper moisture content.

G. All fill material in areas outside of building and pavement areas shall be compacted lightly with each lift and protected from erosion. Areas of building construction shall have suitable fill material placed and compacted in accordance with the Soils Engineer's report (minimum 95% standard proctor).

8. SEEDING PREPARATION

A. Solve any surface or subsurface drainage problems and construct permanent erosion control structures.

B. Remove all rocks, roots or other materials that may interfere with seedbed preparation.

C. Perform the major filling, shaping and smoothing of gullied or severely eroded areas.

D. Have soil tested to check pH and fertility levels. Apply lime at rate specified in seeding specifications on the plans.

E. Work all lime and fertilizer into the soil to a depth of 2–3 inches with a small disk, harrow or rake operated across the slope as much as possible.

F. Firm the soil bed where possible. Do not over pack the soil because too much compacting can restrict water and root penetration into the soil.

STORM SEWER SYSTEMS

1. SCOPE OF WORK

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.

2. MATERIALS

A. Storm Sewers:

1. Reinforced concrete sewer pipe shall conform to ASTM C–76 class 3 latest revision with joints conforming to ASTM C–443 latest revision.

B. Manholes:

1. Precast reinforced concrete manhole sections shall conform to ASTM C–478 latest revision.

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 shotblasting 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.

3. Joints – manhole sections shall be jointed with rubber type gaskets. The rubber type gaskets shall meet ASTM C–443 latest revision.

C. Sub drains:

1. Perforated plastic pipe sub drains shall conform to ASTM D 3034 SDR 35, ASTM D 2729, or ASTM F 405.

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 City of Westfield Zoning Ordinance.

C. Existing improvements: Maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation. Repair to the satisfaction of the owner any damage to existing active improvements.

D. Workmanship: To 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 width of the trench shall be the inside pipe diameter plus 24 inches for 12 inches above the 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 lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering 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: For depth of at least 12 inches above the top of the pipe, backfill with earth or granular material free from large stones, rock fragments, foots or sod. Tamp this backfill thoroughly taking care not to disturb the pipe. For the remaining trench depth, backfill with earth or granular material containing stones or rocks not larger than 4 inches. Backfill under walks, parking areas, driveways and street shall be granular material only –thoroughly compacted by approved methods. Trenches parallel to and within 5 feet of paved roadways shall also be constructed with compacted granular materials.

H. Manhole Inverts: Construct manhole flow channels of concrete, smoothly finished and of semi–circular section conforming to the inside diameter of the connecting sewers. Make changes in size or grade gradually and changes in direction by true curves. Provide such channels for all connecting sewers at each manhole.

I. Subdrains: All subdrains onsite shall be of the size as shown and shall be placed as shown on the plans. They shall be constructed to the grades as shown on the plans.

J. Utilities: It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also, be the contractors responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

PAVING

1. SCOPE OF WORK

The work required under this section includes all exterior concrete and bituminous paving and related items necessary to complete the work indicated on drawings and described in the specifications, including but not limited to:

All drives, parking areas in contract limits
Curbs and gutters
Sidewalks and concrete slabs, exterior steps

2. MATERIALS

A. Concrete: Concrete shall be ready–mixed and shall be a mix of proportioned fine and coarse aggregates with Portland cement and water. Minimum cement content shall be 6 bags per cubic yard of concrete and maximum water content shall be 5.5 U.S. gallons per sack of cement, including moisture in the aggregate. Slump for normal weight concrete shall be a maximum of 4 inches and a minimum of 2 inches. The slump of machine placed concrete shall be no less than 1–1/4 inches nor more than 3 inches. Standard test ASTM C–143 shall be used to measure slump. Minimum compressive strength of concrete at 28 days shall be 4000 psi. All exterior concrete shall have air entrainment of 5% to 8% by volume per ASTM C–260. Retempering of delivered concrete will not be allowed. Concrete shall be composed of:

1. Portland cement: conforming to ASTM C–150, Type IA or type IIIA.

2. Aggregates: conforming to ASTM C–33.

3. Water: Shall be clear and free from injurious amounts of oils, acids, alkalics organic materials or other deleterious substances.

B: Welded Steel Wire Fabric: Where required for concrete reinforcement shall conform to ASTM A185.

C: Premoulded Joint Filler: Shall be non–extruding type meeting ASTM D–544, except that premoulded joint filler used in concrete walk construction may be either non–extruding or resilient.

D. Bituminous Pavement Materials: All materials proposed for the construction of bituminous pavements shall comply with the Indiana Department of Transportation Standard Specifications, latest revisions.

E. Compacted Aggregate Sub–base: Shall be crushed stone or gravel. Crushed gravel shall be a minimum of 35% crushed material. Fines shall be limited to a maximum of 8% of the total. Material shall be free from an excess of flat, elongated, thinly laminated soft or disintegrated pieces, and shall be free from fragments coated with dirt. Compacted aggregate shall be graded as follows:
per latest revisions.

SIEVE SIZE	% PASSING
1–1/2"	100
1"	80–100
3/4"	70–90
1/2"	55–80
#4	35–60
#8	25–50
#30	12–30
#200	5–10

3. 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 improvement.

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 AASHTO T–99. Water shall be prevented from standing on the compacted subgrade.

D. Utility Structures: Check for correct elevation of all manhole covers, inlets, valve boxes and similar structures located within areas to be paved and mark, or have made any necessary adjustments in such structures.

E. Placing Concrete:

1. Subgrade: Place concrete only on a moist, compacted subgrade of 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 handling as practicable. When concrete is to be placed at an atmospheric temperature of 35 degrees F, or less, the Indiana Department of Transportation Standard Specifications, latest revision shall be followed.

F. Concrete Curb and Gutter:

1. Expansion Joints: Shall be 1/2 inch thick premoulded at ends of all returns and a maximum spacing of 100 feet.

2. Contraction Joints: Unless otherwise provided, contraction joints shall be joints spaced 10 feet on center.

3. Finish: Tamp and spread concrete as soon as placed, and fill any honeycombed places. Finish square corners to 1/4 inch radius and other corners to radii shown.

G. Concrete Walks and Exterior Steps:

1. Slopes: Provide 1/4 inch per foot cross slope. Make adjustments in 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: Spread concrete and trowel with a steel trowel to a hard dense surface after surface water has disappeared. Apply medium broom finish and scribe control joints at 6 foot spacing. Provide 1/2 expansion joints where sidewalks intersect, and at a maximum spacing of 48 feet between expansion joints.

H. Curing Concrete: Except as otherwise specified, cure all concrete by one of the methods described in the Indiana Department of Transportation Standard Specifications, , latest revision.

I. Bituminous Pavement: Hot asphalt concrete pavement shall be as specified in the Indiana Department of Transportation Standard Specifications, latest revisions. Paving will not be permitted during unfavorable weather or when the temperature is 40 degrees F. and falling.

J. Compacted Aggregate Sub–base: The thickness shown on the drawings is the minimum thickness of the fully compacted sub–base: 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 tampers.

NOTE: THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

EROSION CONTROL

A. This plan is designed as an attempt to prevent any and all sediment from leaving the construction site by way of erosion. If erosion of sediment from the site is taking place, the owner shall take preventative action immediately. The engineer shall be consulted in the event this happens.

B. Temporary seeding is to be applied within 7 days if no work is anticipated in an area of disturbed soil within 15 days.

C. Permanent seeding is to be applied immediately to areas that have achieved final and finished grade.

D. Preserve existing vegetation on the site whenever and wherever possible to prevent topsoil erosion.

E. All sediment capturing measures are to be implemented prior to the disturbance of the construction area they are intended to service.

F. All erosion control measures proposed are to be properly maintained to continue their effectiveness.

G. If grading occurs during December, January or February dormant seeding procedures shall be used.

H. During dry weather, keep lawns watered with sprinklers or other approved methods. Reseed any areas not germinating or damaged at intervals as may be required according to seasonal condition and/or construction activity. Water grass and execute necessary weeding until full stand of grass has been obtained.

I. The implementation and maintenance of the erosion control is the sole responsibility of the contractor and/or owner.

J. It shall be the contractor's and/or owner's responsibility to minimize sedimentation (from on–site construction activities) from being deposited onto adjacent properties and receiving streams/ditches in strict compliance with the United States Environmental Protection Agency (U.S. EPA) and the Indiana Department of Environmental Management (IDEM) Storm Water Phase II criteria. It shall also be the contractor's or owner's responsibility to obtain any approvals required from the local authority and to submit a complete Notice of Intent form to the Indiana Department of Environmental Management (IDEM) prior to any construction activity.

K. Provide– 12" of INDOT #2 crushed stone on filter fabric construction entrance(s) to site from streets/roads.

L. Contractor shall at all times insure that erosion control measures protecting existing drainage facilities be in place prior to the commencement of any phase of construction or land alteration activity.

M. As soon as areas are brought to finish grade or new drainage facilities are constructed, contractor shall construct the applicable erosion control measures required by and delineated on the approved plan.

N. During site construction activity, the contractor shall:

1. Construct all perimeter silt barriers.

2. Install and maintain clean crushed stone at all construction entrances/exits to the site and any areas used for parking.

3. Prevent construction silts from leaving the site at all times and place excavated materials away from any direct drainage flow runoff from the site.

O. Temporary vegetation shall be installed within 7 days following completion of any phase of grading.

P. Contractor shall inspect all erosion control measures daily and repair as necessary to prevent erosion. Siltation shall be removed from areas where failures have occurred and corrective action shall be taken within 24 hours to maintain all erosion control.

Q. Perimeter siltation barriers shall be maintained at all times.

R. At such time that rough grading of the site is complete and drainage diverts to inlets, inlet erosion control measures shall be installed at all inlet structures to keep piping systems free of siltation.

S. Erosion control measures, construction entrances and siltation barriers shall remain in place until a good stand of grass has been obtained and/or paving operations are complete. After complete vegetative establishment or paving, all silt in pipes, detention facilities and swales shall be removed within 10 days so that finished grades are met.

AQUA-SWIRL™ SPECIFICATION NOTES

1. Manufacturer shall be responsible for complete assembly of Swirl Concentrator.

2. Swirl Concentrator shall be fabricated from high-density polyethylene (HDPE) ASTM F 714 cell class 345464C per ASTM D 3350. The Swirl Concentrator wall (greater than 54" OD) shall be fabricated from profile wall HDPE ASTM F 894 RSC 250.

3. HDPE stub outs and internal components shall be extrusion welded using accepted welding practices. Stub outs shall be supplied by Manufacturer and welded on inside and outside.

4. If lifting eyes disturb grade elevation (rim) or concrete pad rebar alignment, they may be cut in field after installation of Swirl Concentrator by Contractor.

5. Manufacturer shall supply direct access to Swirl Concentrator via 32-inch OD riser(s), which can be field cut to match finished grade by Contractor.

6. Contractor shall supply pipe couplings to and from Swirl Concentrator, which shall be Fernco or Mission style neoprene boot with stainless steel tension bands and shear guard.

For corrugated plastic pipe, or pipe with a diameter of 24" or larger, it is recommended that Contractor use a Mar Mac coupling (www.marmac.com), or equal, with adhesive mastic and tightening bands to create a watertight seal around the joint. The joint shall then be immobilized with a concrete collar with compacted base as described in either Note 11 or 12 herein. Mar Mac, or equal, couplings shall overlap the pipe joint a minimum of 1 foot on either side.

7. Contractor shall prepare excavation and off-load Swirl Concentrator. Contractor is responsible for bedding and backfill around Swirl Concentrator as detailed on site plan. (see notes 11 and 12)

8. Manufacturer shall supply standard manhole frame(s) and cover(s). (Traffic rated H20)

9. Where traffic loading (H-20) is required or anticipated, a reinforced concrete pad must be placed over the entire Swirl Concentrator per concrete design as calculated by Engineer. Sample of typical concrete design detail is available upon request.

10. Unless other traffic barriers are present, bollards shall be placed around access risers in non-traffic areas to prevent inadvertent loading by maintenance vehicles. Sample of typical bollard installation detail and recommended locations of bollards around the Swirl Concentrator can be provided upon request.

11. Excavation and Bedding - The trench and trench bottom shall be constructed in accordance with ASTM D-2321, Section 6, Trench Excavation, and Section 7, Installation. The HDPE Swirl Concentrator shall be installed on a stable base consisting of 12-inches of Class I stone materials as defined by ASTM D2321, Section 5, Materials, and compacted to 95% proctor density. All required safety precautions for Swirl Concentrator installation are the responsibility of the Contractor.

12. Backfill Requirements - Backfill materials shall be Class I Stone or Class II materials (well graded gravels, gravelly sands; contains little or no fines), as defined by ASTM D2321, Section 5, Materials, and compacted to 90% proctor density. Class I stone is preferred. Backfill and bedding materials shall be free of debris. Backfilling shall conform to ASTM F1759, Section 4.2, "Design Assumptions". Backfill shall extend at least 42 inches outward from Swirl Concentrator and for the full height of the Swirl Concentrator (including riser(s)) extending laterally to undisturbed soils.

BLN
Beam, Longest and Neff, LLC
Consulting Engineers, Land Surveyors, Land Planners & Landscape Architects
8126 Castleton Road, Indianapolis, IN 46250
Phone: 317.849.5832
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Fax: 317.841.4281

REVISIONS AND ISSUES	DATE	BY

PLAN DATE: 03-10-08
DWG FILE:
PROJ FILE: PARK
FILE PATH:
CHECK: WNS
DRAWN: WNS
FIELD:

WILLIAM W. SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER

William W. Slike III
03.10.2008

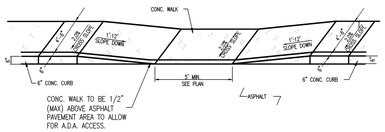
PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH
APPROVAL PENDING
NOT FOR CONSTRUCTION
KOREAN FIRST PRESBETYRIAN CHURCH
SITE SPECIFICATION
HAMILTON COUNTY – WESTFIELD, INDIANA

SHEET NO.
C-4

PROJECT NO.
070036

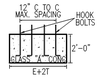
"ADA" PARKING SYMBOL DETAIL

NOT TO SCALE



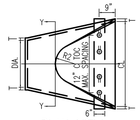
CONCRETE CURB TURNDOWN FOR ADA ACCESS

NOT TO SCALE

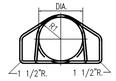


SECTION A-A

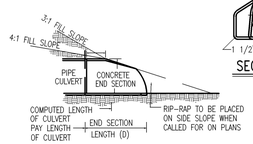
CONC. PIPE TOE ANCHOR



PLAN VIEW



SECTION Y-Y



SLOPE DETAIL

LONGITUDINAL SECTION

TOLERANCE ± 1"

DIA	T (MIN)	A=	C=	D=	E=	K=	R 1	R 2	APPROX WEIGHT
12"	2"	5"	4'-3"	6'-2"	2'-0"	1.3	10 1/8"	9"	800
15"	2 1/4"	7"	4'-0"	6'-3"	2'-6"	1.5	12 1/2"	11"	1100
18"	2 1/2"	11"	4'-1"	6'-2"	3'-0"	1.8	15 1/2"	12"	1300
21"	2 3/4"	11"	3'-6"	6'-3"	3'-6"	2.1	16 1/8"	13"	1500
24"	3"	1'-0"	2'-8"	6'-3"	4'-0"	2.3	16 3/16"	14"	1800
27"	3 1/4"	1'-1"	2'-5"	6'-3"	4'-6"	2.6	18 3/16"	14 1/2"	2100
30"	3 1/2"	1'-2"	1'-10"	6'-3"	5'-0"	2.9	18 1/2"	15"	2400
33"	3 3/4"	1'-3"	1'-6"	6'-3"	5'-6"	3.1	23 3/4"	17 1/2"	4100
36"	4"	1'-5"	1'-1"	6'-3"	6'-0"	3.4	24 3/16"	20"	4200
36"	5"	2"	1'-2"	8'-3"	7'-0"		28 1/8"	22	6550

TOLERANCE ± 1"

CONCRETE IN THESE END SECTIONS SHALL BE THE SAME GRADE AND STRENGTH AS SPECIFIED FOR REINFORCED CONCRETE PIPE, A.S.T.M. DESIGNATION C-76 CLASS II (AS SET OUT IN STANDARD SPECIFICATIONS)

REINFORCEMENT IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR REINFORCED CONCRETE, A.S.T.M. DESIGNATION C-76 CLASS II FOR THE SIZE OF CONNECTING PIPE.

REINFORCEMENT IN THE "B" PORTION SHALL HAVE A CROSS SECTIONAL AREA EQUAL TO THAT OF ONE LAYER OF STEEL IN THE "C" PORTION.

THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSHED. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.

IN 3:1 OR 4:1 FILL SLOPE, CHANGE TO THE SLOPE OF THE END SECTION IN A SMOOTH, PLEASING TRANSITION APPROXIMATELY TO -0- IN LENGTH.

VARIATIONS IN DIMENSIONS – THE THICKNESS OF THE CONCRETE, THE POSITION OF STEEL, AND THE INTERNAL DIAMETER OF THE PIPE SHALL CONFORM WITH THE VARIATIONS IN DIMENSIONS AS PROVIDED IN THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, A.S.T.M. DESIGNATION C-76.

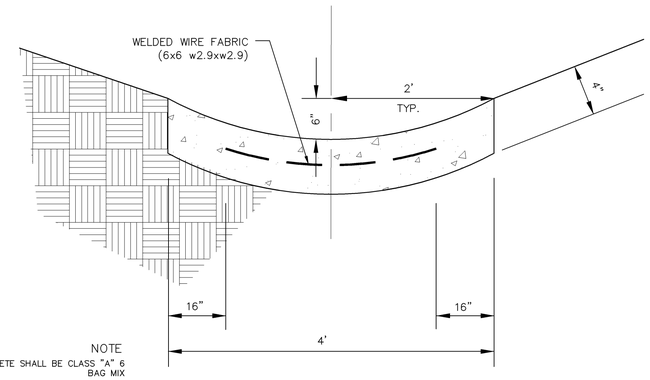
WHERE VITRIFIED CLAY CULVERT OR CAST IRON CULVERT PIPE IS USED, A "PIPE END SECTION" COMPARABLE TO THAT AS SHOWN FOR METAL OR CONCRETE SHALL BE FURNISHED AND SHALL BE AS APPROVED BY THE ENGINEER. EXCEPT IN AREAS OF ACID OR MINE WATER THEN THE USE OF METAL END SECTION IS PROHIBITED.

END SECTIONS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "PIPE END SECTION" COMPLETE IN PLACE AND ACCEPTED.

CONCRETE PIPE TOE ANCHORS SHALL BE REQUIRED ON ALL CONCRETE PIPE END SECTIONS, THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR "PIPE END SECTION."

PRECAST CONCRETE END SECTION DETAIL

(Not to Scale)

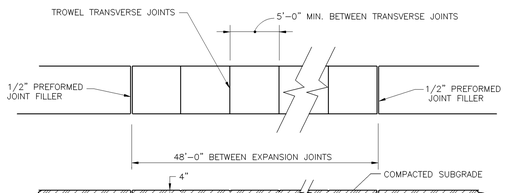


NOTE

CONCRETE SHALL BE CLASS "A" 6 BAG MIX

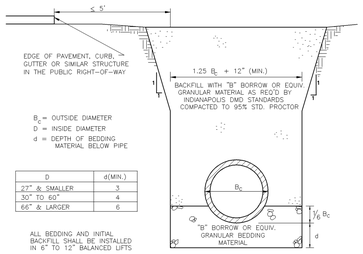
CONCRETE PAVED LOW FLOW CHANNEL CROSS SECTION

NO SCALE



SIDEWALK DETAILS

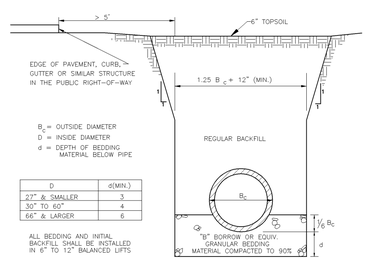
NOT TO SCALE



D	d(MIN.)
27" & SMALLER	3
30" TO 60"	4
66" & LARGER	6

RCP BEDDING SECTION
< 5' FROM EDGE OF PAVEMENT

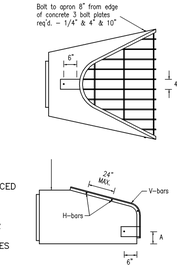
(Not to Scale)



D	d(MIN.)
27" & SMALLER	3
30" TO 60"	4
66" & LARGER	6

RCP BEDDING SECTION
> 5' FROM EDGE OF PAVEMENT

(Not to Scale)



Apron Size	V-bar Size	H-bar Size	No. of H-bars	Bolt Dia.	"A" Dim.
	Inches		Req'd.	Inches	
18	1/2#	5/8#	3	1/2	5
24	5/8#	3/4#	4	1/2	7
30	5/8#	3/4#	4	1/2	7 1/2
36	3/4#	1#	4	1/2	10 1/2
42	3/4#	1#	4	3/4	11
48	3/4#	1 1/2 Pipe	4	3/4	12
54	3/4#	1 1/2 Pipe	5	3/4	12
60	3/4#	1 1/2 Pipe	5	3/4	14
72	3/4#	1 1/2 Pipe	5	3/4	14
84	3/4#	1 1/2 Pipe	6	3/4	15

Steel Pipe Aprons

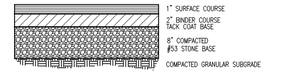
Apron Size	V-bar Size	H-bar Size	No. of H-bars	Bolt Dia.	"A" Dim.
	Inches		Req'd.	Inches	
12	1/2#	5/8#	3	1/2	4
15	1/2#	5/8#	3	1/2	4 1/2
18	1/2#	5/8#	3	1/2	4 1/2
21	1/2#	5/8#	4	1/2	5
24	5/8#	3/4#	4	1/2	5
27	5/8#	3/4#	4	1/2	5 1/2
30	5/8#	3/4#	4	1/2	5 1/2
36	3/4#	1#	4	3/4	6
42	3/4#	1#	4	3/4	8
48	3/4#	1#	5	3/4	8
54	3/4#	1 1/2 Pipe	5	3/4	8
60	3/4#	1 1/2 Pipe	5	3/4	8
66	3/4#	1 1/2 Pipe	6	3/4	8
72	3/4#	1 1/2 Pipe	6	3/4	9
84	3/4#	1 1/2 Pipe	7	3/4	10
90	3/4#	1 1/2 Pipe	7	3/4	14

Steel Pipe Aprons

NOTES:
1. BARS & PLATES ARE HOT-ROLLED STEEL.
2. BARS, PLATES, & PIPE ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.
3. BOLTS ARE GALVANIZED.
4. SEE STD. END SECTION DETAILS FOR APRON DIMENSIONS.

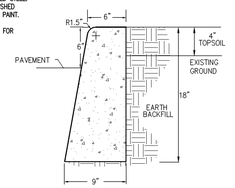
ANIMAL/TRASH GUARDS FOR CONC. END SECTIONS

(Not to Scale)



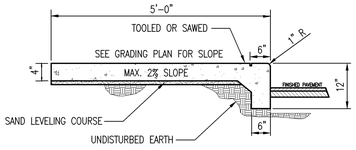
LIGHT DUTY ASPHALT

NOT TO SCALE



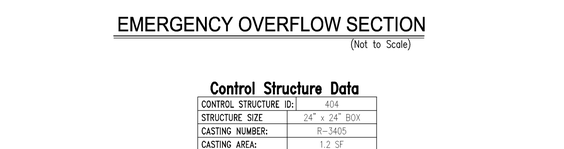
6" X 18" CURB DETAIL

NOT TO SCALE



INTEGRAL CURB AND WALK DETAIL

NOT TO SCALE

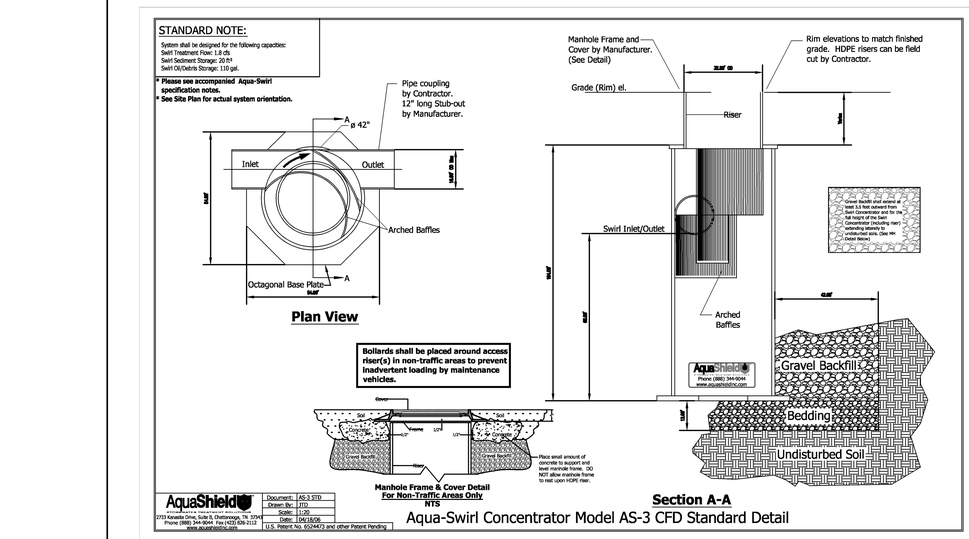


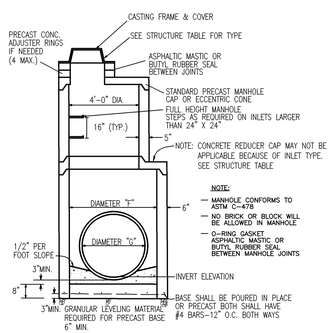
EMERGENCY OVERFLOW SECTION

(Not to Scale)

Control Structure Data

CONTROL STRUCTURE ID:	404
STRUCTURE SIZE	24" x 24" BOX
CASTING NUMBER:	R-3405
CASTING AREA:	1.2 SF
CASTING SIZE PERIM.	22" Dia 5.8 LF
RIM ELEVATION:	881.20
ORIFICE ORIENTATION	SOUTH
ORIFICES QTY./ELEV/DIA	1 877.00 6.00"
OUTLET ORIENTATION	N 876.90 12"
OUTLET PIPE	12" RCP

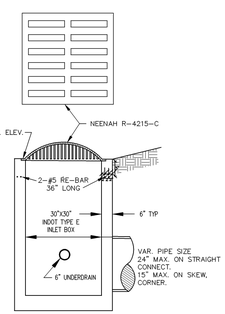




PIPE SIZE (DIA. "G")	MANHOLE (DIA. "F") PIPES ENTERING/ LEAVING AT 0-45 DEGREES	MANHOLE (DIA. "F") PIPES ENTERING/ LEAVING AT 45-90 DEGREES
12"-21"	48"	48"
24"	48"	60"
27"-30"	60"	60"
33"-36"	60"	72"
42"	72"	84"
48"	72"	96"

STANDARD STORM MANHOLE

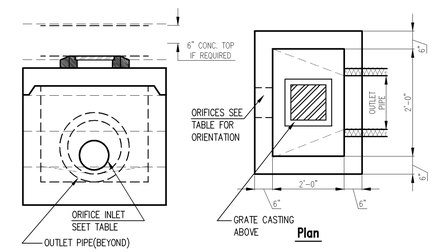
(Not to Scale)



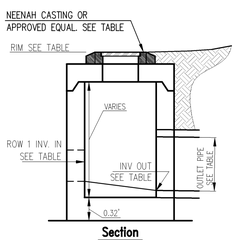
SEE STRUCTURE TABLE FOR ADDITIONAL INFO

EARTH DITCH INLET TYPE E

(Not to Scale)



NOTES:
1. Concrete Section conforms to ASTM C76, C76M, C655, C655M, C1417, C1417M Standards. See Construction Specifications for Alternate Materials.
2. Approved Equal Castings shall match structurally and hydraulically.
3. See Plans for Orientation and Locations of Pond Outlet



Pond Outlet Detail

Not to Scale

BLN
Beam, Longest and Neff, LLC
Consulting Engineers, Land Surveyors, Land Planners & Landscape Architects
8126 Castleton Road, Indianapolis, IN 46250
Phone: 317.849.5832
Fax: 317.841.4281
www.BLN.com

PLAN DATE: 03-10-08
DWG FILE:
PROJ-FILE PATH:
FILE PATH
CHECK: WNS
DRAWN: WNS
FIELD:

REVISIONS AND ISSUES

BY	DATE

WILLIAM W SLIKE III
REGISTERED
NO. PE10504736
STATE OF INDIANA
PROFESSIONAL ENGINEER
William W. Slike III
03.10.2008

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH

APPROVAL PENDING
NOT FOR CONSTRUCTION

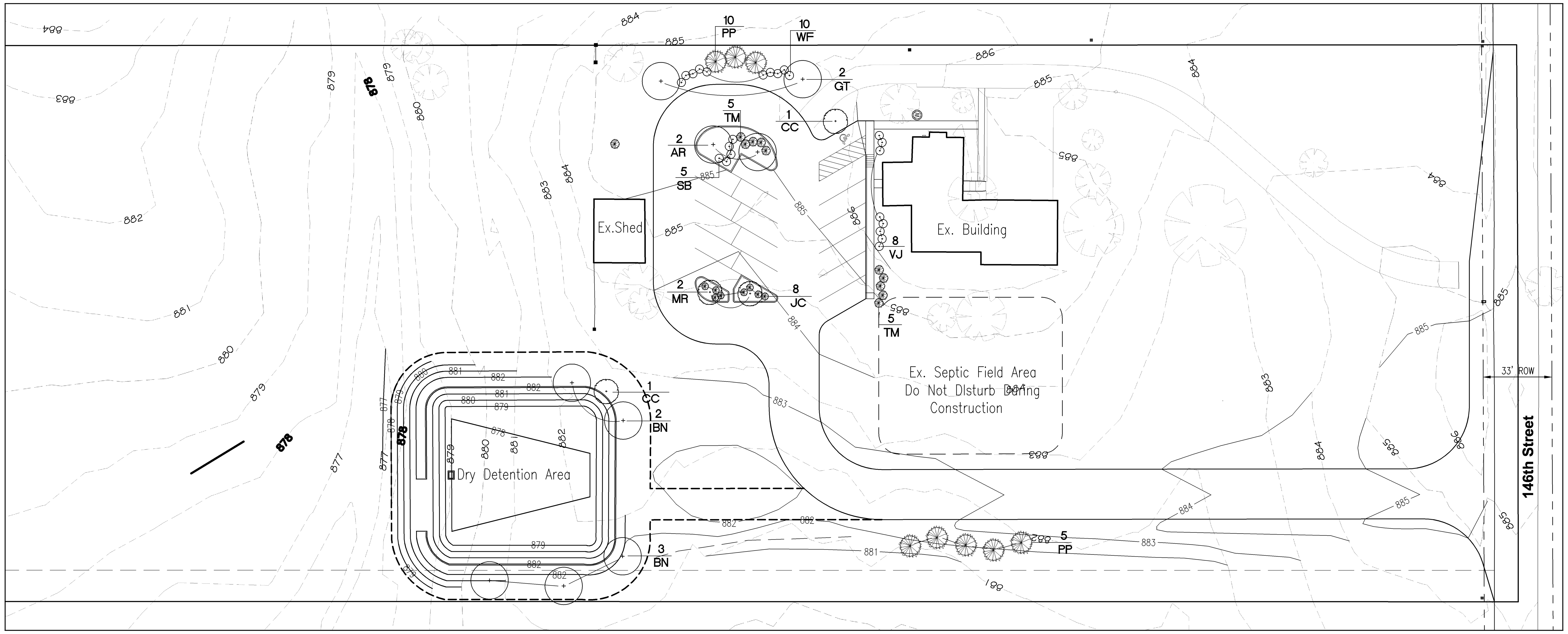
KOREAN FIRST PRESBETYRIAN CHURCH

SITE DETAILS

HAMILTON COUNTY – WESTFIELD, INDIANA

SHEET NO.
C-4.1

PROJECT NO.
070036



SCALE: 1" = 30'

0 15 30 60

LANDSCAPE PLAN

GENERAL NOTES:

1. IN CASE OF DICREPANCIES BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE

2. ALL SHRUB PLANTING AREAS TO BE COVERED WITH 3" LAYER OF SHREDDED HARDWOOD BARK MULCH. ALL GROUND COVER BEDS SHALL BE COVERED WITH 2" SHREDDED HARDWOOD BARK MULCH. MULCH SHALL BE APPROVED BY LANDSCAPE ARCHITECT AND SHALL BE UNIFORM IN TEXTURE AND COLOR AND SHALL BE OBTAINED FROM SAWMILL OR LUMBERING OPERATIONS. NO UTILITYMULCH OR PROCESSED TREE TRIMMINGS WILL BE ACCEPTED.

3. AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING BEDS AT A RATE SPECIFIED BY MANUFACTURER FOR EACH PLANT VARIETY.

4. FINAL PLACEMENT OF PLANT MATERIALS, ETC. SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BEFORE PLANTING OPERATIONS ARE TO PROCEED. ALL TREE LOCATIONS SHALL BE MARKED WITH A WOOD STAKE INDICATING VARIETY AND SIZE OF TREE. ALL GROUND COVER AND PLANTING BED LINES SHALL BE MARKED WITH HIGHLY VISIBLE PAINT LINES WITH OCCASIONAL WOOD STAKES FOR REFERENCE. ALL STAKES SHALL BE REMOVED FOLLOWING PLANTING OPERATIONS. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANT LOCATIONS ON THE SITE.

5. NO SUBSTITUTIONS OF PLANT MATERIALS WILL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT PRIOR TO BIDDING IN WIRTING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT I.D. AT NURSERY OR CONTRACTORS OPERATIONS PRIOR TO MOVING TO JOB SITE. PLANTS MAY BE INSPECTED AND APPROVED OR REJECTED ON THE JOB SITE BY THE LANDSCAPE ARCHITECT,.

6. ALL PLANTS SHALL MEET OR EXCEED AMERICAN STANDARDS FOR NURSERY STOCK, ANSI Z60.1-2004.

7. PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLICT WITH CONSTRUCTION OPERATIONS AND AS DIRECTED BY LANDSCAPE ARCHITECT.

8. ALL LANDSCAPE PLANTINGS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. AT END OF THIS PERIOD, PLANT MATERIAL TERMED DEAD OR UNSATISFACTORY BY LANDSCAPE ARCHITECT SHALL BE REPLACED AT NO ADDITIONAL CHARGE BY THE LANDSCAPE CONTRACTOR.

9. LAWNS SHALL BE SEEDED FOLLOWING SCARIFYING, FINAL GRADING, FERTILIZING, AND RAKING. LAWN SHALL BE FERTILIZED WITH 8-24-10 ANALYSIS FERTILIZER AT A RATE OF 10LBS PER 100S.F. AND LIME APPLIED AS DICTATED BY SOILS TEST PRIOR TO SEEDING, LAWNS TO BE SEEDED WITH MECHANICAL SPREDDER AT A RATE OF 5LBS PER 1000SF. APPLY SEED 1/2 ONE DIRECTION AND 1/2 PERPENDICULAR TO THE FIRST. LIGHTLY RAKE, ROLL WITH 200 LBS ROLLER AND APPLY HYDROMULCH AFTER SEEDING.

10. THE LANDSCAPE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES THAT MAY BE REQUIRED FOR HIS PORTION OF THE WORK.

11. PEATMOSS TO BE USED ON PROJECT SHALL BE DOMESTIC OR IMPORTED MATERIAL, CHOCOLATE BROWN IN COLOR AND COMPOSED OF PARTIALLY DECOMPOSED VEGETABLE MATERIAL. PEAT MOSS TO BE MILDLY ACIDIC IN CHARACTER AND SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.

12. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IN WRITING PRIOR TO BID DATE OF ANY PLANTS HE/SHE FEELS MAY NOT SURVIVE IN LOCATIONS AS NOTED ON THE PLANS.

13. ALL DISTURBED LAWN AREAS SHALL BE SEEDED AS NOTED. PERMANENT SEEDED LAWNS SHALL BE SEED MIX AS APPROVED BY LANDSCAPE ARCHITECT. SEED MIX SHALL CONSIST OF 34 POUNDS WABASH OR BARON KENTUCKY BLUEGRASS, 20 POUNDS PARK KENTUCKY BLUEGRASS, 20 POUNDS PENNLAWN FESCUE AND 26 POUNDS CERTIFIED FINE BLADED PERENNIAL RYEGRASS.

14. ALL LAWNS SHALL BE GUARANTEED TO HAVE A FULL UNIFORM STAND OF ACCEPTABLE GRASS AT THE END OF THE ONE YEAR GUARANTEE PERIOD WITH NO BARE SPOTS COMPRISING MORE THAN 2% OF ANY LAWN AREA. ANY AREA SO NOTED WILL BE SEEDED UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.

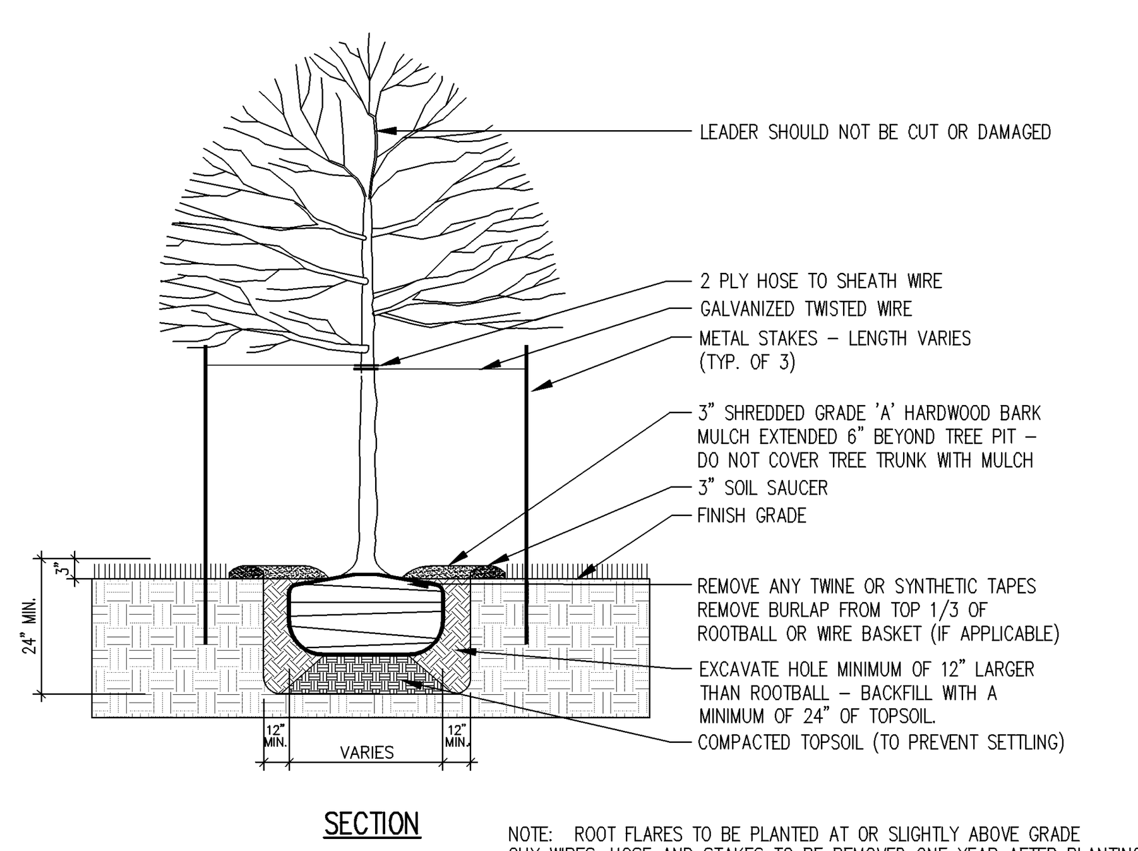
15. ALL LANDSCAPE PLANTINGS TO BE MAINTAINED BY CONTRACTOR FOR 60 DAYS FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. ALL SEEDED LAWNS SHALL BE MAINTAINED FOR 60 DAYS FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT AFTER WRITTEN REQUEST FROM THE LANDSCAPE CONTRACTOR. MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, MOWING, AND ALL OTHER NECESSARY OPERATIONS REQUIRED FOR PROPER ESTABLISHMENT OF LAWNS AND PLANTINGS

16. CONTRACTOR TO SUBMIT UNIT PRICES ON EVERY TYPE OF WORK AS REQUIRED BY LANDSCAPE ARCHITECT.

17. ALL LAWN AREAS WITHIN LAWN LIMIT LINES TO RECEIVE 6" APPROVED TOPSOIL PRIOR TO SEEDING OPERATIONS.

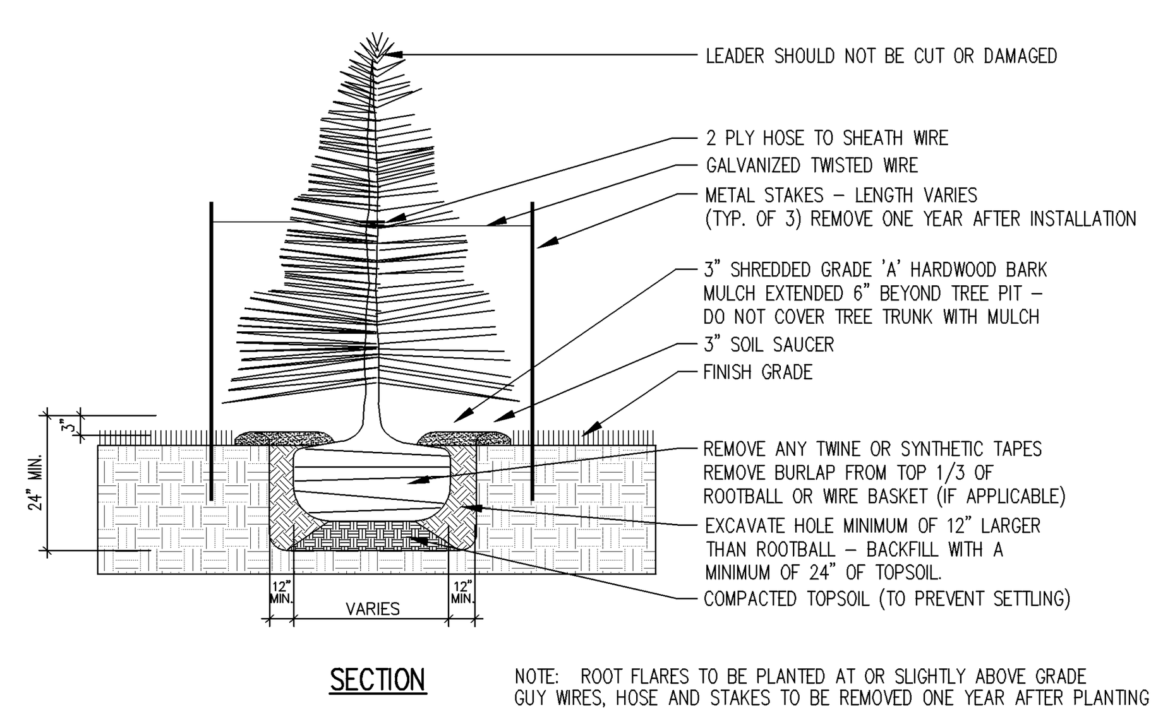
18. BACKFILL FOR TREE AND SHRUB PLANTINGS SHALL BE FROM EXISTING SOILS. A 5-10-5 ANALYSIS SLOW RELEASE FERTILIZER SHALL BE INCORPORATED INTO BACKFILL AT APPROVED RATES.

19. ALL INSTALLED PLANTINGS SHALL BE APPROPRIATELY WATERED FOR A MINIMUM PERIOD OF ONE YEAR TO ALLOW FOR THEIR ESTABLISHMENT. GUY WIRES, HOSE AND STAKES TO BE REMOVED ONE YEAR AFTER PLANTING.



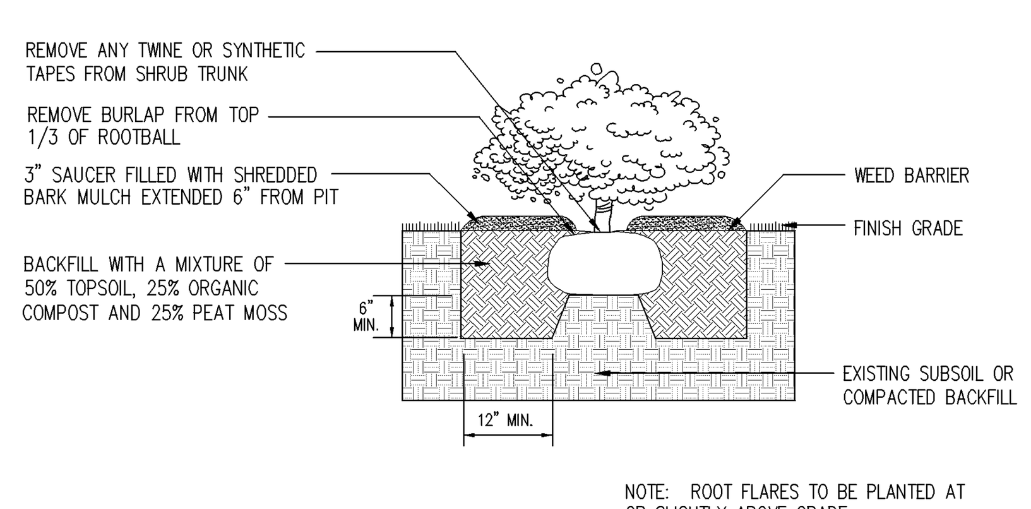
DECIDUOUS TREE DETAIL

NOT TO SCALE



EVERGREEN TREE DETAIL

NOT TO SCALE



SHRUB DETAIL

NOT TO SCALE

PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	COND.	REMARKS
SHADE TREES						
AR	*Acer rubrum 'October Glory'*	*October Glory Red Maple*	2	2"	B & B	
BN	*Betula nigra*	*River Birch*	5	6'	B & B	Clump Form
GT	*Gleditsia triacanthos var. inermis*	*Shademaster Honeylocust*	2	2"	B & B	
ORNAMENTAL TREES						
CC	*Cercis canadensis*	Redbud	2	1.5"	B & B	Single Stem
MR	*Malus 'Jewelcole'*	*Red Jewel Crabapple*	2	1.5"	B & B	
EVERGREEN TREES						
PP	*Picea pungens*	*Colorado Spruce*	--	8'	B & B	
SHRUBS						
JC	*Juniperus chinensis 'Armstrongii'*	*Armstrong Juniper*	8	24"	B & B	
SB	*Spiarea x bumalda 'Anthony Waterer'*	*Anthony Waterer Spirea*	5	24"	B & B	
TM	*Taxus x media 'Densiformis'*	*Dense Yew*	10	24"	B & B	
VJ	*Viburnum x juddii*	*Judd Viburnum*	8	24"	B & B	
WF	*Weigela florida 'Pink Princess'*	*Pink Princess Weigelia*	10	30"	B & B	

Landscape Planting Requirements per Acre

Shade Trees: 2 x 4 acres = 8 Shade Trees

Evergreen/Ornamental Trees: 3 x 4 acres = 12 Evergreen/Ornamental Trees

Shrubs: 10 x 4 acres = 40 Shrubs

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2 WORKING DAYS BEFORE YOU DIG.

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Fax: 317.841.4281

PLAN DATE: 03-10-08
DWG FILE:
PROJ-FILE PATH: FILE PATH
CHECK: INITS
DRAWN: INITS
FIELD:

DATE	BY	REVISIONS AND ISSUES

MATTHEW S. OMAN REGISTERED No. 29900004 STATE OF INDIANA LANDSCAPE ARCHITECT

PREPARED FOR:
NEW PARKING LOT FOR KOREAN FIRST PRESBETYRAIAN CHURCH

APPROVAL PENDING NOT FOR CONSTRUCTION

KOREAN FIRST PRESBETYRIAN CHURCH

LANDSCAPE PLAN

HAMILTON COUNTY - WESTFIELD, INDIANA

SHEET NO. C-5

PROJECT NO. 070036