CITY OF BLOOMINGTON

HEARING OFFICER

September 20, 2017 @ 2:00 p.m.
CITY HALL -
KELLY CONFERENCE ROOM #155

CITY OF BLOOMINGTON
HEARING OFFICER
September 20, 2017 at 2:00 p.m. ***Kelly Conference Room #155**

PETITIONS:

- V-25-17 **Jeff Brawley**
  403 E. 20th St.
  Request: Front yard setback variance in the Residential High-density (RH) zoning district to allow the construction of one multi-family building.
  Case Manager: Jackie Scanlan

******Auxiliary aids for people with disabilities are available upon request with adequate notice. Please call 812-349-3429 or E-mail human.rights@bloomington.in.gov.***

BLOOMINGTON HEARING OFFICER **CASE #: V-25-17**
STAFF REPORT **DATE: September 20, 2017**
LOCATION: 403 E. 20th Street

PETITIONER: **Jeff Brawley, BMI Properties LLC**
PO Box 5543, Bloomington

CONSULTANT: **Matt Ellenwood, Matte Black Architecture Inc.**
2021 E. Wexley Road, Bloomington

REQUEST: The petitioner is requesting a front yard building setback variance to allow the construction of one multi-family building.

REPORT: The petitioner owns three lots on the north side of East 20th Street between North Dunn and Lincoln Streets. The site is zoned Residential High-Density Multifamily (RH). The petitioner is seeking to construct a five townhouse building 15 feet from the right-of-way line.

The existing home, which will be demolished, is approximately 22 feet from the right-of-way. The Unified Development Ordinance requires that new buildings in the RH zoning district be built "15 feet from the proposed right-of-way indicated on the Thoroughfare Plan; or the block face average setback of the existing primary structures on the same block face, whichever is more." There are five (5) primary structures on the block face that are used to determine the block face average. Block face average setback is defined, not as the mean average, but as "the existing front setback of at least fifty percent (50%) of the primary structures along the same block face as the subject property…" This amounts to the median average, the middle number in the sequence. Four of the five primary buildings on the block have been developed in a previously desired development pattern, with the building set back from the road and parking located in front of the building. The current UDO does not allow parking between the building and the road.

From west to east, the buildings on the block were built in 1967, 1972, 1950, 1987, and 1997. The distances from the right-of-way for these sites are as follows: 49 feet, 48 feet, 21 feet, 24 feet, and 61 feet. Therefore, the setback required by Ordinance is 48 feet from the right-of-way line, a much higher setback than the UDO typically calls for in any residential zoning district. The petition property required setback is unique because it is set by antiquated development patterns no longer desired by the City, and would hinder desired development such as parking behind the building. If the block was vacant, the new building could be built at the requested 15 foot setback.

Approval of the variance would allow for the proposed five townhouse structure to be built 15 feet from the right-of-way line.

CRITERIA AND FINDINGS FOR DEVELOPMENT STANDARDS VARIANCE
Front Yard Setback

20.09.130 e) Standards for Granting Variances from Development Standards: A variance from the development standards of the Unified Development Ordinance may be approved only upon determination in writing that each of the following criteria is met:

1) *The approval will not be injurious to the public health, safety, morals, and general welfare of the community.*

RECOMMENDED FINDING: No injury is found. The proposed building will be fifteen (15) feet from the right-of-way line, seven (7) feet closer than the existing structure. The setback will allow for space for the proposed parking behind the building.

2) *The use and value of the area adjacent to the property included in the Development Standards Variance will not be affected in a substantially adverse manner.*

RECOMMENDED FINDING: No negative effects from this proposal on the areas adjacent to the property are found. The UDO finds that 15 feet from the right-of-way line is appropriate in some situations in the RH zoning district. The site will meet all other setback standards, appropriately separating the development from the neighboring properties.

3) *The strict application of the terms of the Unified Development Ordinance will result in practical difficulties in the use of the property; that the practical difficulties are peculiar to the property in question; that the Development Standards Variance will relieve the practical difficulties.*

RECOMMENDED FINDING: Practical difficulty is found in not allowing the proposed front yard setback. Contradictory requirements of the UDO, front yard setback and parking behind the structure, in combination with the size of this parcel, make development difficult. The age of the other properties on the block face requires a deep front yard setback that does not further the City goal of improving the pedestrian realm along this street frontage. Peculiar condition is found in the relationship of the 111 foot depth of this property and the age of adjacent developments that set the front yard setback for this parcel. The majority of those developments have the building located at the rear of the property, with the parking in front. Holding the new development to the excessive front yard setback standard does not meet the intended purpose of the UDO regulation.

RECOMMENDATION: Based upon the written findings above, staff recommends approval of V-25-17 with the following conditions:

1. The petitioners must obtain a building permit prior to construction.
2. This variance applies only to the five townhouse building, as shown in the submitted site plan.

Petitioner Statement

Date: September 5, 2017

To: City of Bloomington Planning & Transportation Department Hearing Officer

From: Matt Ellenwood, Architect on behalf of Jeff Brawley, Applicant

Re: Minimum Front Setback Variance for 403 E 20th Street

Attn: Hearing Officer

This letter is to request approval for a minimum front building setback variance to allow the construction of a 2 ½ story, 5 unit townhouse structure on the property at 403 E 20th Street in Bloomington, IN. The proposed structure is 32'-0" x 90'-4" and is to be located as shown on the provided site plans.

A variance is sought because the current UDO requires the minimum front building setback to be 15' from the proposed ROW OR the block face average setback of the existing primary structures on the same block face, whichever is more. At this particular location the adjacent structures are a combination of older single-family homes and 2-3 story apartments built under a former UDO guideline in which the buildings were allowed to be set to the rear of the property with parking in the front. This therefore creates a much deeper average setback and creates difficulty for new development to meet the intent of the current UDO (building forward/parking in the back design). The standard 15' minimum front setback is thereby proposed.

This proposal follows the guidelines of the current UDO by placing the building closer to the street, creating separate townhouse entries with stoops, lighting and signage, and hiding the parking at the rear. It also encourages alternative transportation by limiting the parking to 10 spaces for 14 total beds as well as placing bike parking on site along the front sidewalk. All other development requirements (including setbacks, max. impervious surface, etc.) will be met.

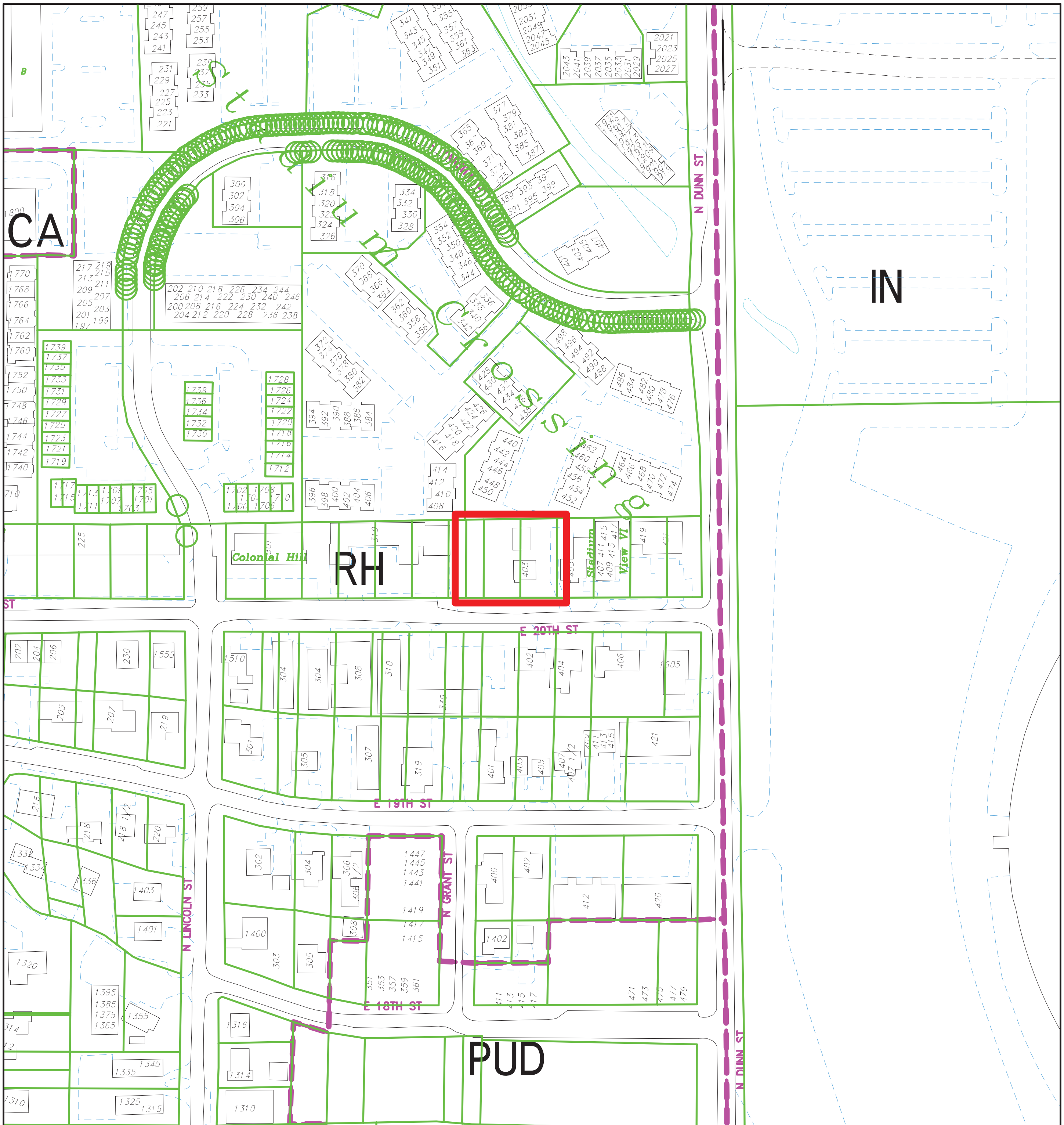
Thank you for your time and consideration of this application.

Sincerely,

Matt Ellenwood, Architect
Matte Black Architecture

On behalf of:

Jeff Brawley, Applicant



By: scanlanj
13 Sep 17

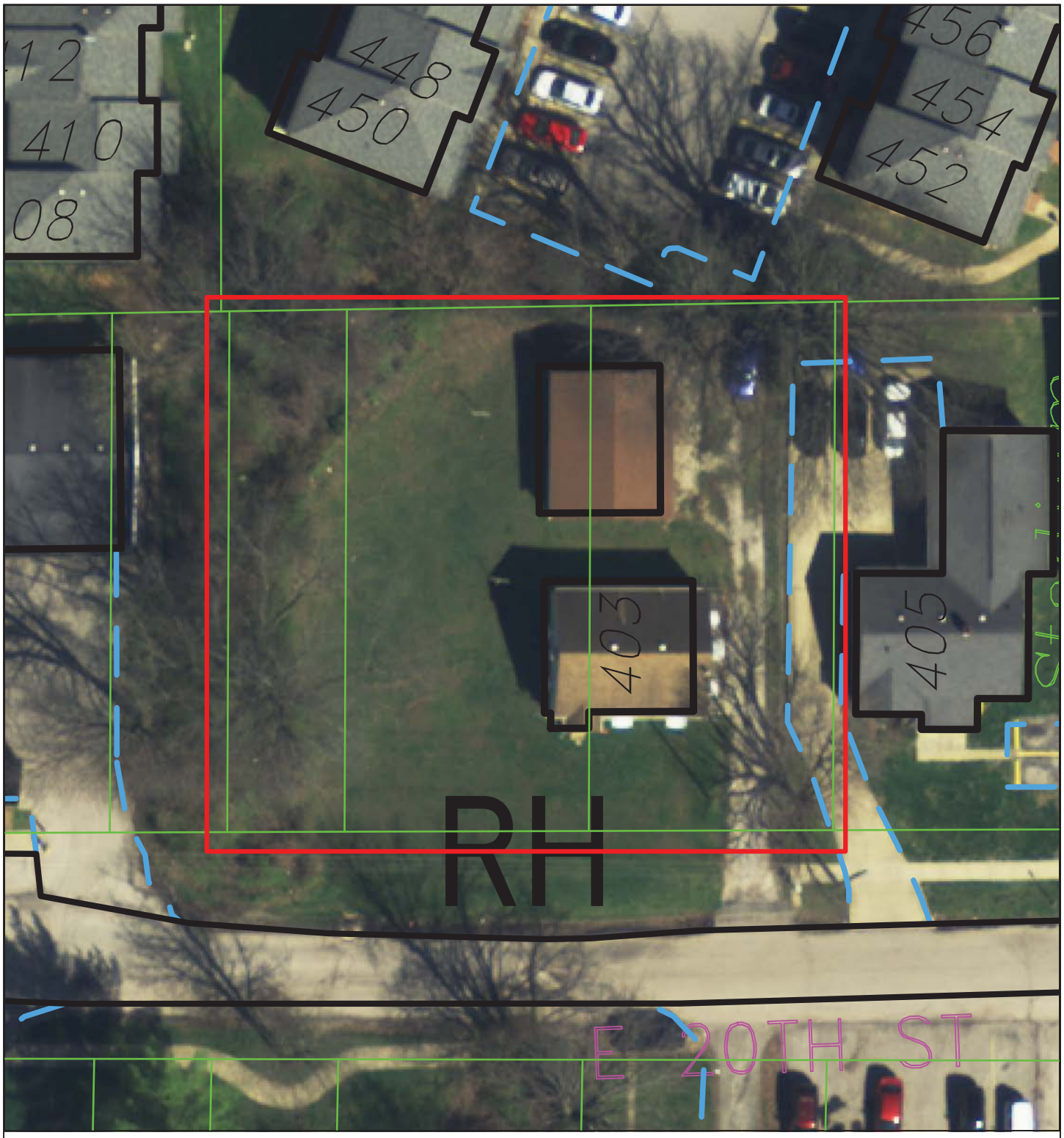
200 0 200 400 600

N

City of Bloomington
Planning & Transportation

Scale: 1" = 200'

For reference only; map information NOT warranted.



City of Bloomington
Planning & Transportation

By: scanlanj
13 Sep 17

30 0 30 60 90

N

Scale: 1" = 30'

For reference only; map information NOT warranted.

20TH STREET TOWNHOMES

403 E. 20TH STREET
BLOOMINGTON, IN 47408

V-25-17 Petitioner Site Plan

LEGAL DESCRIPTION

LOTS NUMBER ONE HUNDRED TWENTY-EIGHT (128), ONE HUNDRED TWENTY-NINE (129), AND ONE HUNDRED THIRTY (130) IN MILLER COURTS ADDITION TO THE CITY OF BLOOMINGTON, MONROE COUNTY, INDIANA, AS SHOWN BY THE PLAT THEROF RECORDED IN PLAT CABINET B, ENVELOPE 51, IN THE OFFICE OF THE RECORDER OF MONROE COUNTY, INDIANA

A STRIP TWENTY-FIVE (25) FEET OF EVEN WIDTH EAST OFF THE ENTIRE EAST SIDE OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128), SAID STRIP BEING DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128); THENCE EAST TWENTY-FIVE (25) FEET TO A POINT; THENCE SOUTH PARALLEL WITH THE EAST LINE OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128) TO A POINT TWENTY-FIVE (25) FEET EAST OF THE SOUTHEAST CORNER OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128); THENCE WEST TWENTY-FIVE FEET AND TO THE SOUTHEAST CORNER OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128); THENCE NORTH ALONG THE EAST LINE OF SAID LOT NUMBER ONE HUNDRED TWENTY-EIGHT (128) AND TO THE POINT OF BEGINNING.

BLOOMINGTON TOWNSHIP
SECTION 28
T9N R1W

OWNER

BMI PROPERTIES, LLC
P.O. BOX 5543
BLOOMINGTON, INDIANA 47407

DEVELOPER(S) & APPLICANT(S)

WEICHERT REALTORS – THE OWENS GROUP
1401 S. WALNUT ST.
BLOOMINGTON, INDIANA 47401

DESIGNER(S) & SURVEYOR(S)

SMITH BREHOB & ASSOCIATES, INC.
453 S. CLARIZZ BOULEVARD
BLOOMINGTON, IN. 47407
(812) 336-6536

HEIGHT AND BULK

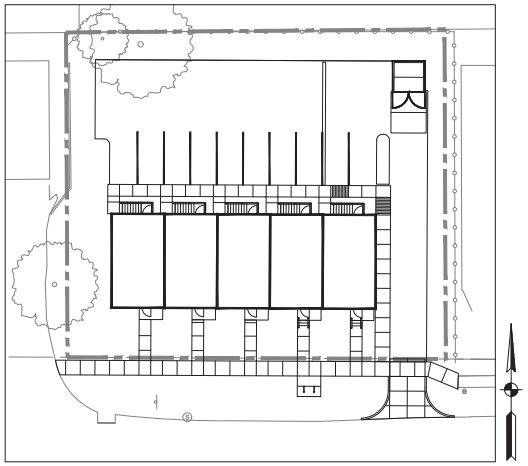
ZONE = RH

SETBACKS

FRONT BUILDING SETBACK
FRONT = 15'
SIDE = 15'
REAR = 15'

PARKING SETBACK
FRONT = 20' BEHIND BUILDING FRONT
SIDE 10'
REAR 10'

MAX IMPERVIOUS SURFACE = 50%



SITE MAP
1" = 20'

LOCATION MAP
NTS

SHEET INDEX	
Sheet Number	Sheet Title
C100	TITLE SHEET
C101	EXISTING CONDITIONS
C102	DEMOLITION PLAN
C103	SITE PLAN
C104	GRADING PLAN
C105	UTILITY PLAN
C106	UTILITY PROFILES
C108	EROSION CONTROL PLAN
C109	EROSION CONTROL NOTES
C110	CIVIL DETAILS

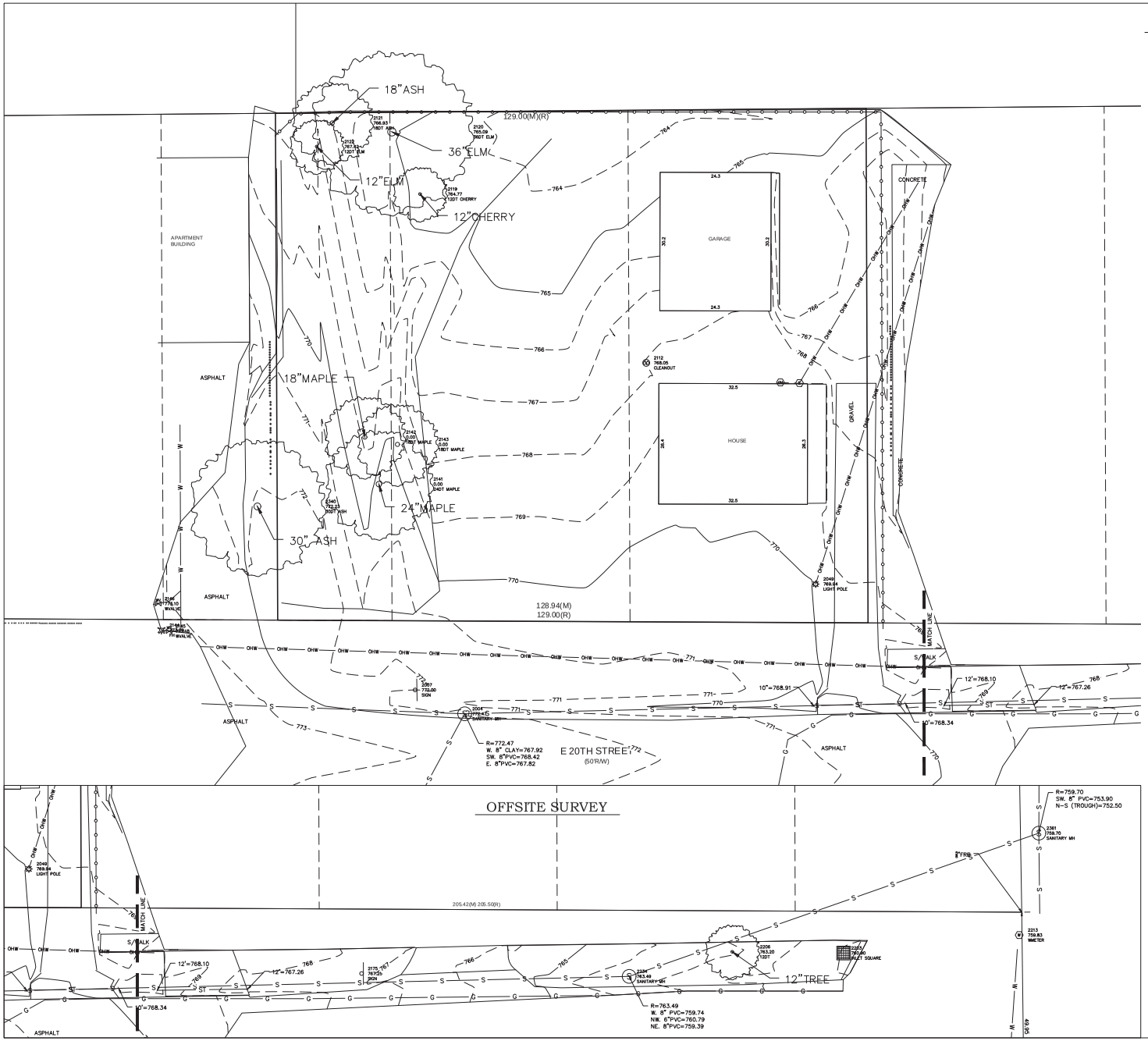
SHEET NO.	REVISIONS	BY	DATE

CERTIFICATION DATE

PREPARED BY:
SMITH BREHOB & ASSOCIATES INC. BLOOMINGTON, INDIANA

NOTE : SPECIFICATIONS FOR THIS PROJECT ARE THE 2014 SMITH BREHOB & ASSOCIATES STANDARD SPECIFICATIONS.

JOB NUMBER: 5514



TOPOGRAPHIC LEGEND

RR SPIKE	AIR CONDITIONER	STORM MANHOLE	FIRE HYDRANT
STONE	GAS VALVE	CURB INLET	CONNIFEROUS TREE
REBAR	COMMUNICATION MANHOLE	INLET ROUND	DECIDOUS TREE
IRON PIPE	COMMUNICATION VAULT	INLET SQUARE	M MEASURED
MAG NAIL	FIBER OPTIC MANHOLE	YARD INLET	P PLATTED
UTILITY POLE	FIBER OPTIC VAULT	DOWN SPOUT DRAIN	R RECORD
LIGHT POLE	CONCRETE BOLLARD	WATER VALVE	FRB FOUND REBAR
ELECTRIC METER	SIGN	WATER MANHOLE	SRB SET REBAR
CLEAN OUT	T-POST	WATER METER	RP FOUND IRON PIPE
GAS METER	UNKNOWN MANHOLE		FRS FOUND RAILROAD SPIKE
GUY WIRE	UNKNOWN LID		FM.AG FOUND MAG NAIL
ELECTRIC MANHOLE	MONITORING WELL		SM.AG SET MAG NAIL
ELECTRIC VAULT	STEAM MANHOLE		B.C. BUILDING CORNER
ELECTRIC HANDHOLE	STEAM METER		FND FOUND
ELECTRIC TRANSFORMER	STEAM VAULT		P.D.O. POSSIBLE DEED OVERLAP
SANITARY MANHOLE			P.D.G. POSSIBLE DEED GAP
			B.G. BELOW GRADE
			A.G. ABOVE GRADE

OVERHEAD WIRES	OHW
CHAIN-LINK FENCE	
SANITARY SEWER	S
UNDERGROUND GAS LINE	G
UNDERGROUND ELECTRIC LINE	L
UNDERGROUND COMMUNICATION LINE	C
WATER LINE	W
STORM SEWER	ST

BASIS OF BEARINGS:
INDIANA STATE PLANE, WEST ZONE
VERTICAL DATUM: NAVD 88

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453 S. Clarizz Boulevard
Bloomington, Indiana 47401
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Fax: (812) 336-6513
Web: http://smithbrehob.com

08/23/2017

403 E. 20TH STREET
BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

DESIGNED KCK
DRAFTED KCK
CHECKED
DATE

JOB NUMBER 5514

SHEET C101

DATE 08/23/2017

EXISTING CONDITIONS

SCALE: 1"=10'

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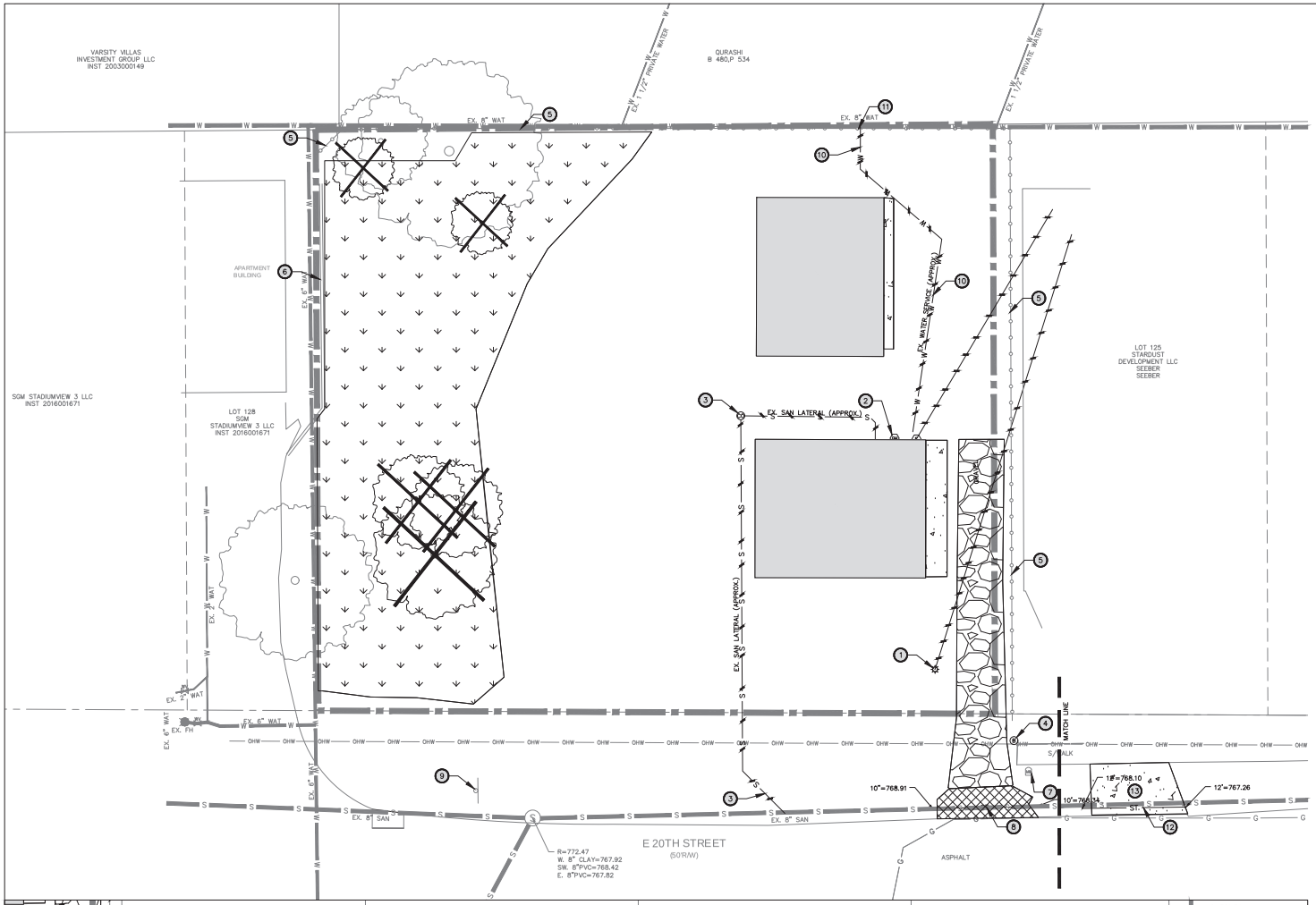
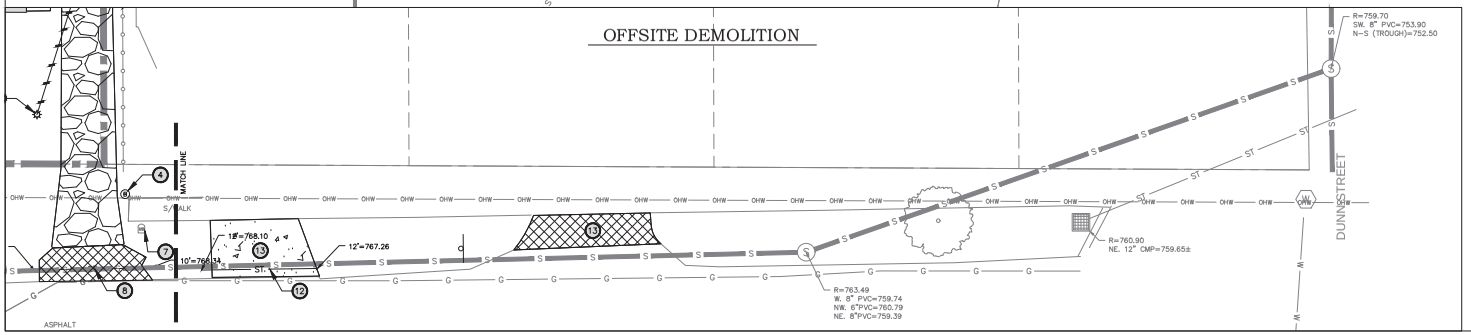


OFFSITE DEMOLITION



DEMOLITION LEGEND

- REMOVE EXISTING TREE, STUMP, AND ROOTS
- REMOVE EXISTING BUILDING, INCLUDING FOOTINGS AND SLABS. BACKFILL AND COMPACT WITH APPROVED FILL.
- CLEAR AND GRUB EXISTING VEGETATION
- REMOVE EXISTING CONCRETE WALKS, PAVEMENT, AND GRAVEL BASE
- REMOVE EXISTING GRAVEL
- REMOVE EXISTING ASPHALT PAVEMENT AND GRAVEL BASE
- REMOVE EXISTING UTILITY LINE. COORDINATE WITH APPROPRIATE UTILITY COMPANY

DEMOLITION KEY NOTES

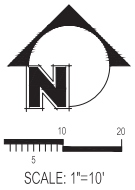
1. REMOVE EXISTING LIGHT POLE.
2. REMOVE EXISTING GAS METER AND GAS LINE ON SITE. PLUG AND ABANDON AT THE R/W LINE PER GAS UTILITY'S REQUIREMENTS.
3. REMOVE EXISTING SANITARY SEWER LATERAL. IF LATERAL IS A MINIMUM OF 6" AND MEETS CBU REQUIREMENTS, REUSE PER UTILITY PLAN. IF EXISTING TAP IS UNABLE TO BE REUSED, PROVIDE A NEW TAP WHERE DIRECTED BY CBU.
4. REMOVE EXISTING BOLLARD.
5. PROTECT EXISTING FENCE.
6. PROTECT EXISTING RETAINING WALL
7. PROTECT EXISTING MAILBOX.
8. REMOVE EXISTING 10" STORM PIPE.
9. PROTECT EXISTING SIGN.
10. REMOVE EXISTING WATER SERVICE. CAP AND ABANDON AT THE PROPERTY LINE.
11. EXISTING REMOVE AND REPLACE FENCE AS NEEDED FOR WATER LINE WORK.
12. REMOVE EXISTING 12" STORM PIPE.
13. REPLACE TO MATCH EXISTING PER SITE PLAN AFTER THE INSTALLATION OF UTILITIES IS COMPLETE. COORDINATE WORK WITH ADJACENT PROPERTY OWNERS AND CITY OF BLOOMINGTON PRIOR TO CONSTRUCTION.

DEMOLITION NOTES

1. PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITY, CONTRACTOR SHALL COORDINATE AND ON-SITE MEETING WITH CITY PLANNING, ENGINEERING AND CBU TO REVIEW SCOPE OF WORK.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF DISCONNECTION OF PRIVATE UTILITIES WITH RESPECTIVE UTILITY SERVICE PROVIDERS.
3. ANY SIGNS REQUIRING REMOVAL TO EXECUTE THE WORK SHALL BE REMOVED, STORED AND RE-SET UPON COMPLETION OF CONSTRUCTION.
4. USE OF THE PUBLIC R/W REQUIRES PRIOR APPROVAL FROM CITY BPW.
5. WORK WITHIN THE R/W REQUIRES A CITY R/W EXCAVATION PERMIT AND BOND.
6. SIDEWALK CLOSURE SIGNAGE IS REQUIRED AT THE NEAREST STREET CROSSING LOCATION IN ADVANCE OF THE SIDEWALK CLOSURE.
7. BUILDINGS, FOOTINGS, SLABS AND FOUNDATIONS SHALL BE REMOVED COMPLETELY AND THE RESULTING EXCAVATION BACKFILLED WITH COMPACTED GRANULAR MATERIAL IF LOCATED WITHIN AN AREA OF PROPOSED FILL PLACEMENT.
8. TREES AND STUMPS SHALL BE REMOVED COMPLETELY AND THE RESULTING EXCAVATION BACKFILLED WITH COMPACTED GRANULAR MATERIAL IF LOCATED WITHIN AN AREA OF PROPOSED FILL PLACEMENT.
9. BURYING OF DEMOLITION MATERIALS ON SITE IS NOT PERMITTED.
10. THOUGH AN IDEM NPDES STORM WATER NOI IS NOT REQUIRED FOR THIS SITE, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING AND MONITORING ON SITE EROSION CONTROL DEVICES DURING CONSTRUCTION.
11. IF TRACKING OF MATERIAL ONTO ADJACENT PUBLIC ROADWAYS OCCURS, TRACKED MATERIAL SHALL BE CLEANED DAILY.
12. ADDITIONAL IMPROVEMENTS OR DEMOLITION ON OR ADJACENT TO THE SITE MAY HAVE BEEN COMPLETED SINCE TOPOGRAPHIC SURVEY WAS COMPLETED. CONTACT ENGINEER IF ADDITIONAL IMPROVEMENTS RESULTING IN A CHANGE OF PLAN ARE DISCOVERED.

GENERAL NOTES

1. SEE SMITH BREHOB & ASSOCIATES, INC STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
2. TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS:
   MANHOLES: RIM ELEVATION
   INLETS: GUTTER ELEVATION
3. LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.



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08/23/2017

403 E. 20TH STREET
BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

DESIGNED KCK
DRAWN KCK
CHECKED
DATE

JOB NUMBER 5514
SHEET C102
DATE 08/23/2017
DEMOLITION PLAN

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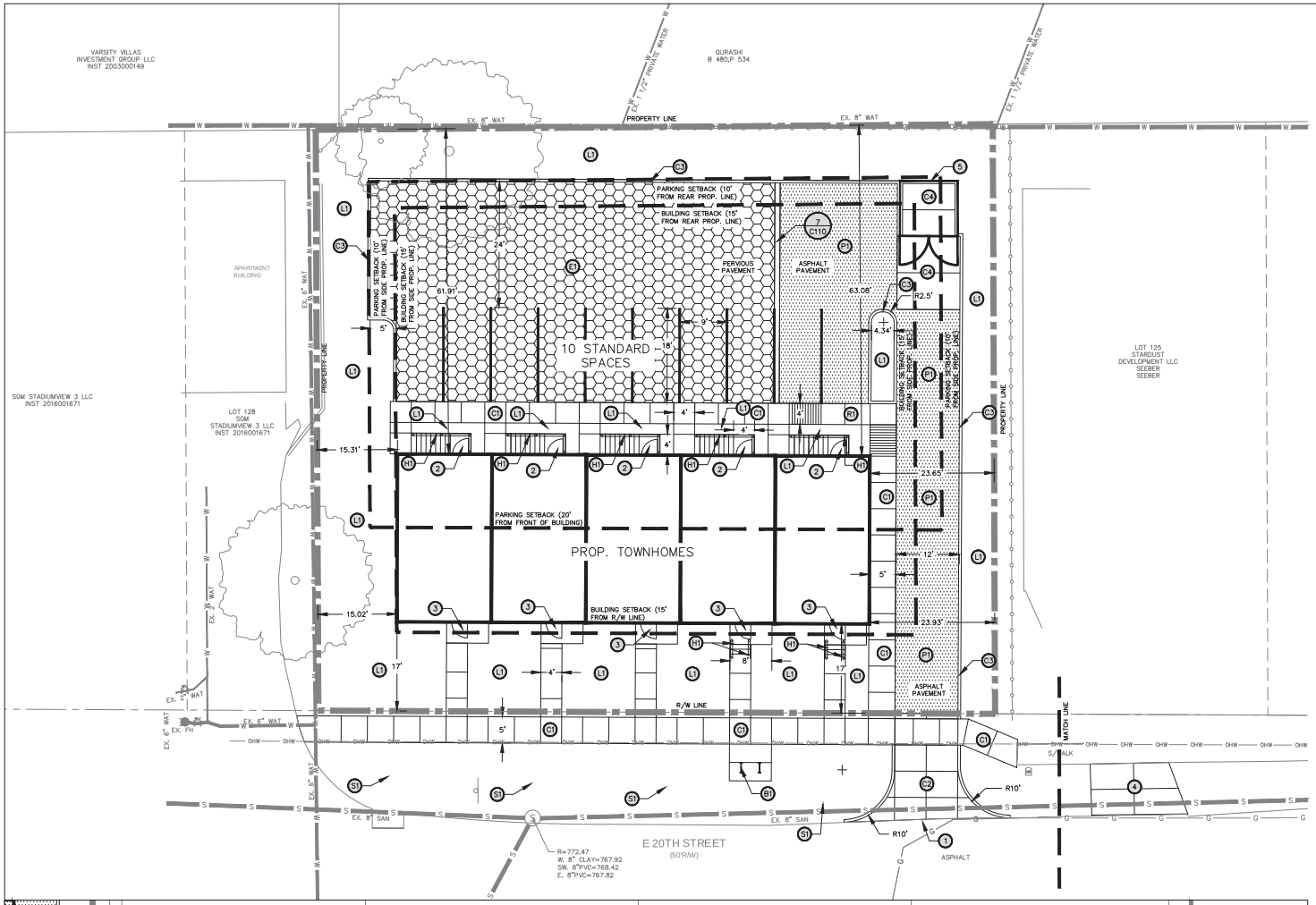

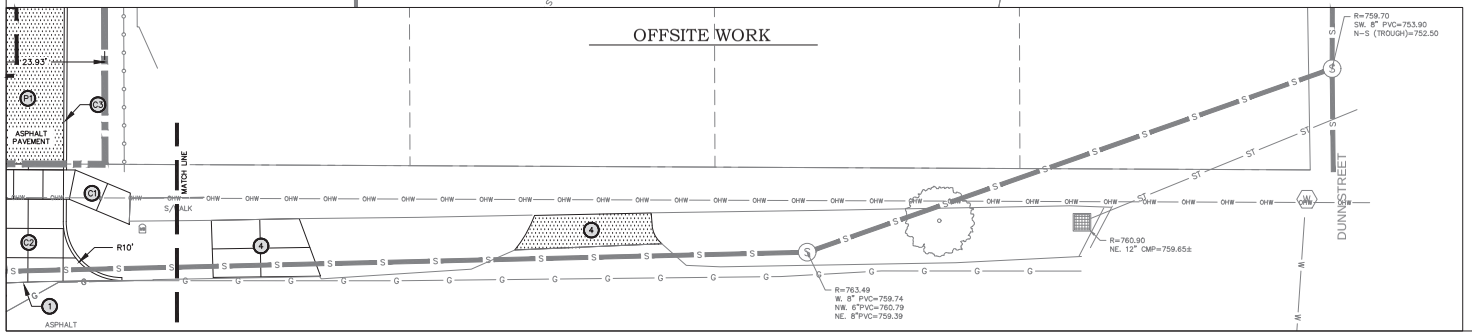

SITE LEGEND

PERVIOUS PAVEMENT (E)

ASPHALT PAVEMENT (P)

CURB RAMP (R)

HANDRAIL (H)

SITE MATERIALS LEGEND

C1 CONCRETE WALK PER DETAIL 2/C110 - WIDTH VARIES
4" THICK CONCRETE, 3500 PSI
4" INDOT #53 COMPACTED AGGREGATE BASE
C2 CONCRETE APPROACH
6" THICK CONCRETE, 4000 PSI
8" INDOT #53 COMPACTED AGGREGATE BASE
C3 6" STANDING CONCRETE CURB PER DETAIL 4/C110
C4 CONCRETE DUMPSTER PAD
6" THICK CONCRETE, 4000 PSI
8" INDOT #53 COMPACTED AGGREGATE BASE
6X6-4/4 WELDED WIRE FABRIC REINFORCEMENT
R1 PERPENDICULAR ACCESSIBLE CURB RAMP PER DETAIL 5/C110
P1 ASPHALT PAVEMENT
1" HMA SURFACE COURSE ON
3" HMA BASE COURSE ON
7" INDOT #53 COMPACTED AGGREGATE BASE
E1 PERVIOUS PAVEMENT PER DETAIL 6/C110
B1 BIKE RACKS PER DETAIL 3/C110
L1 LANDSCAPE AREA (SEE LANDSCAPE PLANS FOR DETAILS)
H1 HANDRAIL- EXTEND 1' BEYOND TOP AND BOTTOM STEP (SEE ARCHITECTURAL PLANS FOR DETAILS)

SITE KEY NOTES

1. REPLACE ANY ASPHALT REMOVED FOR INSTALLATION OF CONCRETE.
2. 4' X 4' LANDING AND STEPS. SEE GRADING PLAN FOR ELEVATIONS AND ARCHITECTURAL PLANS FOR MATERIALS.
3. 4' X 8' LANDING AND STEPS. SEE GRADING PLAN FOR ELEVATIONS AND ARCHITECTURAL PLANS FOR MATERIALS.
4. REPLACE TO MATCH EXISTING PAVEMENT AFTER UTILITY INSTALLATION IS COMPLETE. COORDINATE WORK WITH ADJACENT PROPERTY OWNERS AND CITY OF BLOOMINGTON PRIOR TO CONSTRUCTION.
5. DUMPSTER SCREENING FENCE WITH TWO HINGED GATES PER DETAIL 10/C110.

SITE NOTES

1. SIDEWALK RAMPS SHALL BE IN ACCORDANCE WITH THE LATEST ADA AND CITY OF BLOOMINGTON REQUIREMENTS. CONTRACTOR SHALL COORDINATE WORK WITH CITY ENGINEERING PRIOR TO COMMENCEMENT.
2. PAVEMENT MARKINGS, IF SHOWN, SHALL BE APPLIED IN ACCORDANCE WITH SECTION 808 & 912.14 OF THE 2014 INDOT STANDARD SPECIFICATIONS AND AS SHOWN ON THE PLANS.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CITY R/W EXCAVATION PERMIT IF WORK WITHIN THE PUBLIC R/W IS NECESSARY FOR THE PROJECT COMPLETION.
4. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR BUILDING DIMENSIONS AND DETAILS.

GENERAL NOTES

1. SEE SMITH BIREHOB & ASSOCIATES, INC STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
2. TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS:
   MANHOLES: RIM ELEVATION
   INLETS: GUTTER ELEVATION
3. LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.

DEVELOPMENT SUMMARY

TOTAL SITE AREA:	0.330 ACRES
ZONING:	RESIDENTIAL HIGH-DENSITY MULTI FAMILY (RH)
DENSITY PERMITTED:	15 UNITS/ACRE = 4.95 UNITS FOR THIS SITE
DENSITY PROVIDED:	4.66 UNITS
BUILDING SETBACKS:	15' FROM R/W, 15' FROM SIDES, 35' FROM REAR
PARKING SETBACKS:	20' FROM FRONT BUILDING, 10' FROM SIDES, 10' FROM REAR
BUFFER YARD:	NOT REQUIRED
MAXIMUM PARKING ALLOWED:	1 SPACE/BEDROOM = 14 SPACES
PARKING PROVIDED:	10 SPACES
BIKE PARKING REQUIRED:	4 SPACES
BIKE PARKING REQUIRED:	4 SPACES
IMPERVIOUS SURFACE AREA PERMITTED:	0.165 ACRES
IMPERVIOUS SURFACE AREA PROPOSED:	0.149 ACRES

SCALE: 1"=10'

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1533 S. Clarita Boulevard
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Web: http://smithbrebob.com

08/23/2017

403 E. 20TH STREET
BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

DESIGNED KCK
DRAWN KCK
CHECKED
DATE

JOB NUMBER 5514
SHEET C103
DATE 08/23/2017
SITE PLAN

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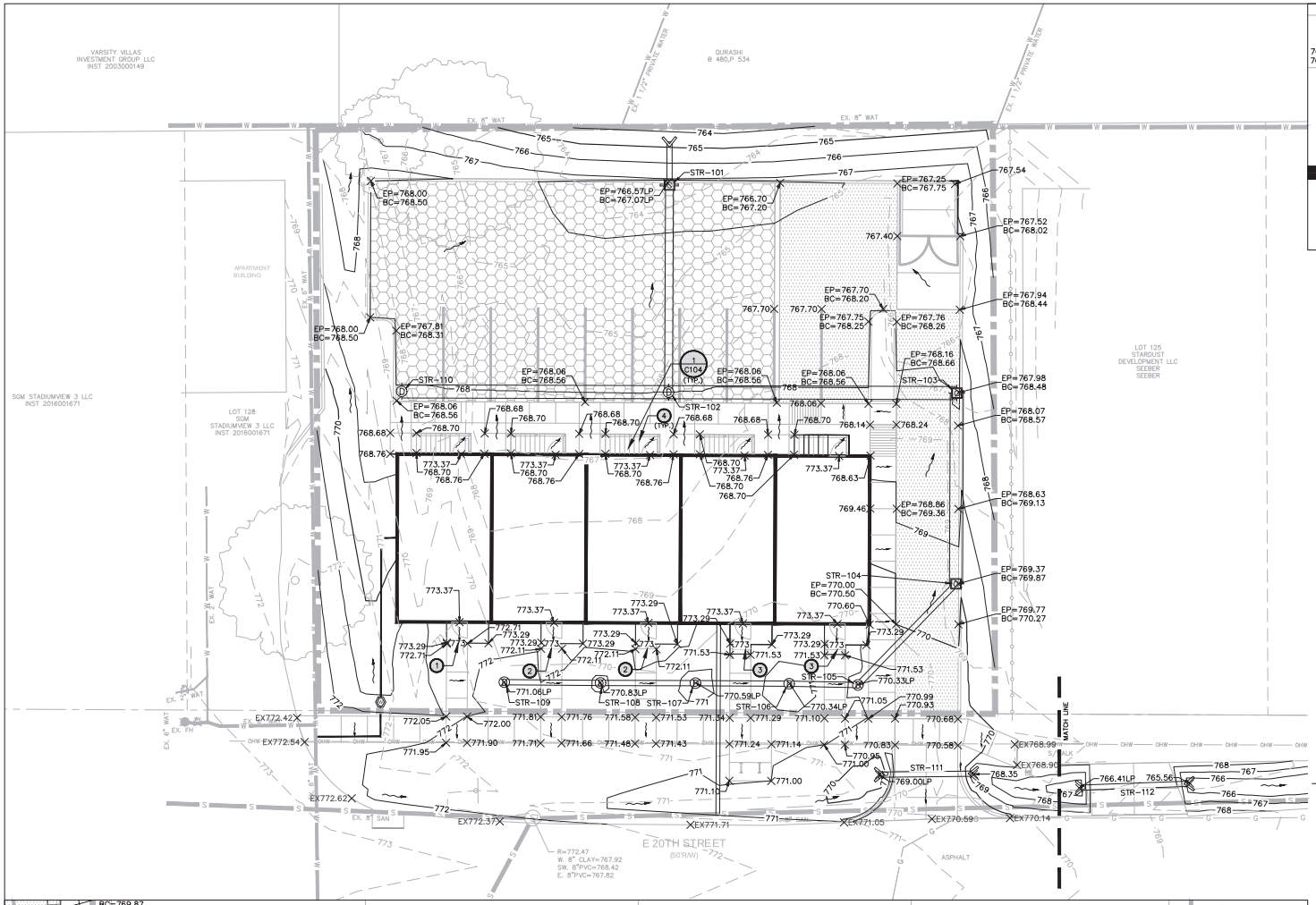

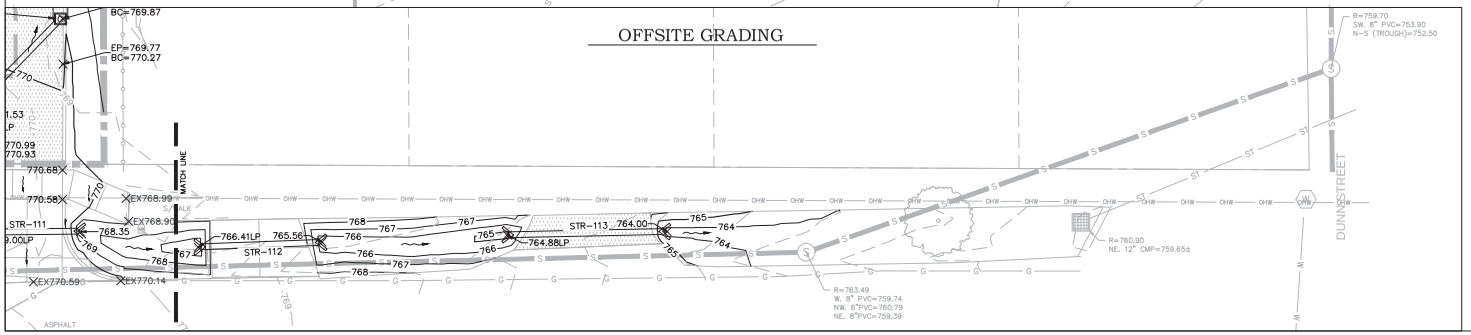

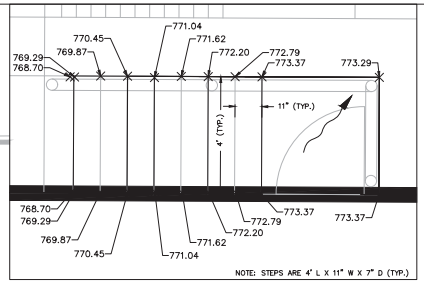

1 C104 REAR STAIRWAY DETAIL (TYP.)
1" = 2'

GRADING PLAN LEGEND

EXISTING MINOR CONTOUR	XXX
EXISTING MAJOR CONTOUR	XXX
PROPOSED MINOR CONTOUR	XXX
PROPOSED MAJOR CONTOUR	XXX
DIRECTION OF FLOW	
EXISTING ELEVATION	EX XXX.XX
PROPOSED ELEVATION	XXX.XX
EDGE OF PAVEMENT ELEVATION	EP = XXX.XX
BACK OF CURB ELEVATION	BC = XXX.XX
LOW POINT	XXX.XX LP
FINISH FLOOR ELEVATION	FF = XXX.XX

GRADING PLAN NOTES

1. ALL STEPS ARE 4' LONG X 11" WIDE X 7" DEEP.

GRADING PLAN KEY NOTES

1. ONE 7" STEP (7" TOTAL ELEVATION CHANGE).
2. TWO 7" STEPS (14" TOTAL ELEVATION CHANGE).
3. THREE 7" STEPS (21" TOTAL ELEVATION CHANGE).
4. EIGHT 7" STEPS (56" TOTAL ELEVATION CHANGE).

GENERAL NOTES

1. CONTOURS AND BOUNDARY DATA OBTAINED FROM SMITH BREHOB & ASSOCIATES, INC. SURVEY DATED 7/14/17.
2. LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.
3. OFF-STREET PARKING AREAS (INC. PARKING SPACES, DRIVEWAYS AND AISLES) SHALL BE PAVED WITH PLANT MIX ASPHALT OR CONCRETE WITHIN ONE (1) YEAR OF THE DATE ON WHICH THE IMPROVEMENT LOCATION PERMIT FOR THE PARKING AREA IS ISSUED.
4. POURED IN PLACE CONCRETE CURBS SHALL BE INSTALLED TO SEPARATE OFF-STREET PARKING AREAS FROM THE FRONT AND SIDES OF ANY ABUTTING BUILDING OR STRUCTURE, OTHERWISE BARRIER CURBS MAY BE INSTALLED AS NECESSARY TO SAFELY AND EFFICIENTLY DIRECT THE MOVEMENT AND PARKING OF MOTOR VEHICLES.

TOPOGRAPHIC LEGEND

RR SPIKE	AC	AIR CONDITIONER	D	STORM MANHOLE	FIRE HYDRANT
STONE	GV	GAS VALVE		CURB INLET	CONNIFEROUS TREE
REBAR	C	COMMUNICATION MANHOLE		INLET ROUND	DECIDOUS TREE
IRON PIPE	C	COMMUNICATION VAULT		INLET SQUARE	
MAG NAIL	FO	FIBER OPTIC MANHOLE	Y	YARD INLET	
UTILITY POLE	FO	FIBER OPTIC VAULT	DS	DOWN SPOUT DRAIN	
LIGHT POLE	B	CONCRETE BOLLARD		WATER VALVE	
ELECTRIC METER		SIGN	W	WATER MANHOLE	
CLEAN OUT		T-POST	W	WATER METER	
GAS METER	UM	UNKNOWN MANHOLE			
GUY WIRE	UID	UNKNOWN LID			
ELECTRIC MANHOLE	MW	MONITORING WELL			
ELECTRIC VAULT	ST	STEAM MANHOLE			
ELECTRIC HANDHOLE	ST	STEAM METER			
ELECTRIC TRANSFORMER	ST	STEAM VAULT			
SANITARY MANHOLE					

OVERHEAD WIRES	OHW
CHAIN-LINK FENCE	
SANITARY SEWER	S
UNDERGROUND GAS LINE	G
UNDERGROUND ELECTRIC LINE	L
UNDERGROUND COMMUNICATION LINE	C
WATER LINE	W
STORM SEWER	ST

N

10 20
5
SCALE: 1"=10'

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08/23/2017

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REVISIONS	BY	DATE

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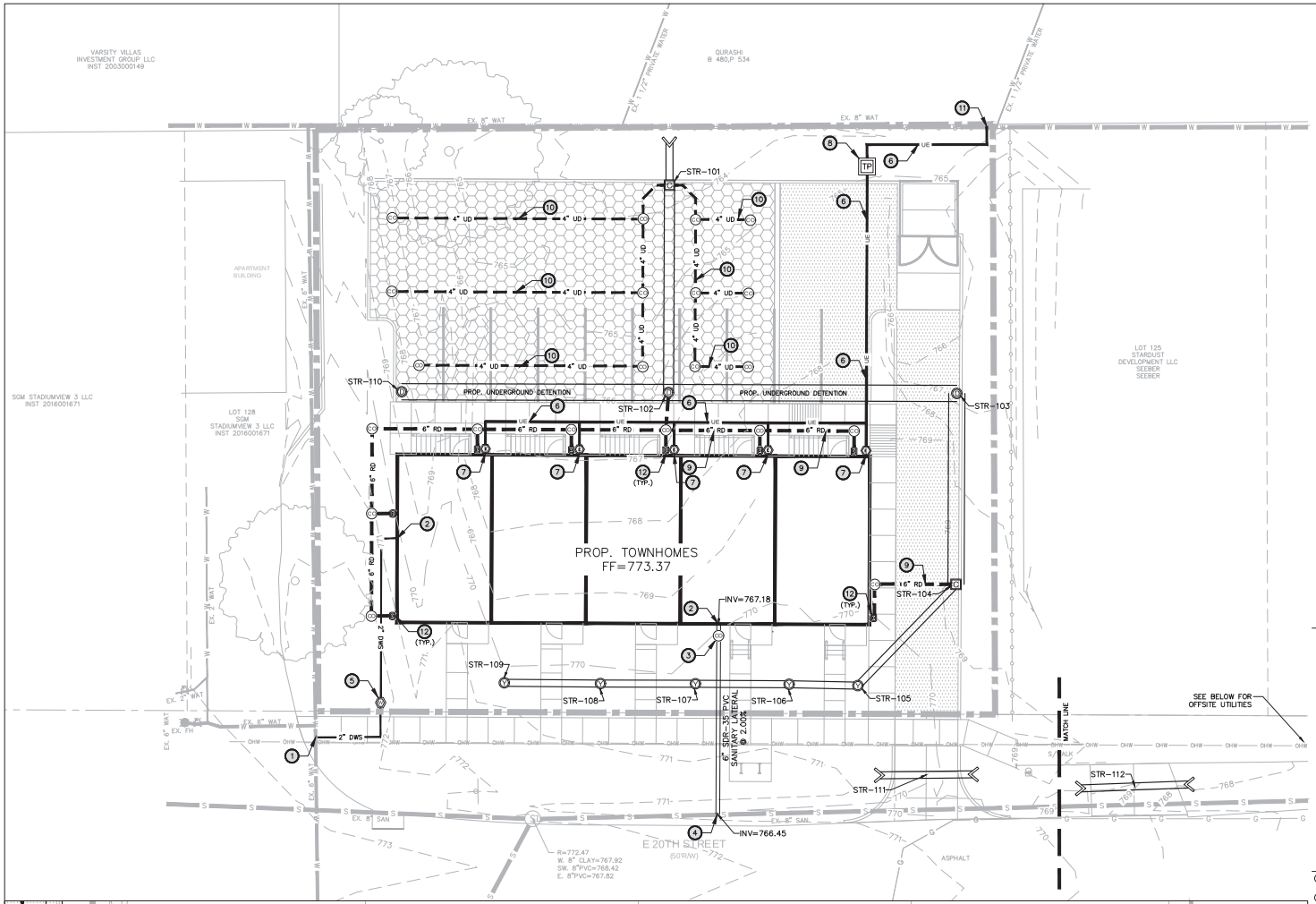
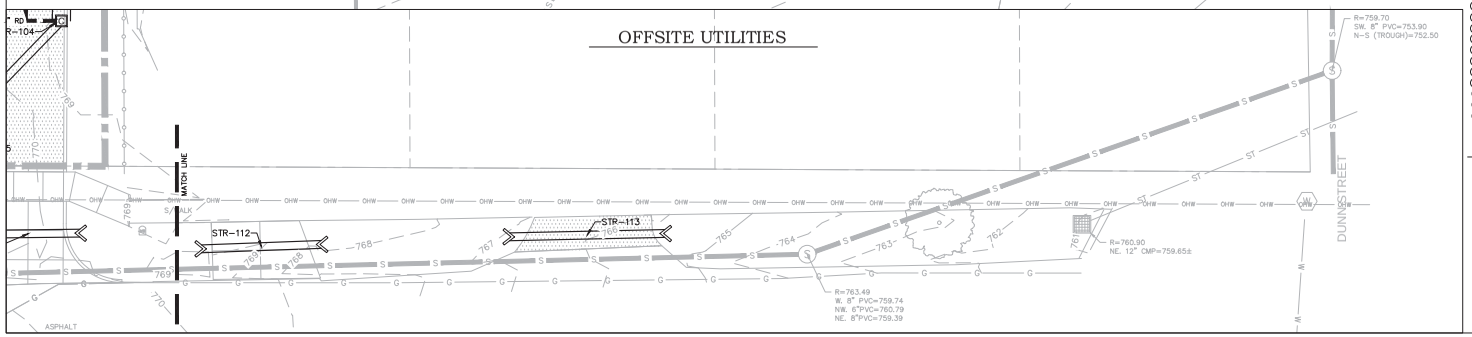
DATE

JOB NUMBER 5514
SHEET C104
DATE 08/23/2017
GRADING PLAN

12



OFFSITE UTILITIES



UTILITY LEGEND

WATER IRRIGATION LINE
DOMESTIC WATER SERVICE
FIRE WATER SERVICE
WATER MAIN
WATER SERVICE LINE
WATER VAULT
WATER HANDHOLE
WATER MANHOLE
WATER METER
WATER VALVE
FIRE HYDRANT
FLUSH HYDRANT
WATER MASTER METER
WATER AIR RELEASE VALVE
WATER END CAP
WATER TANK
SANITARY MAIN LINE
SANITARY FORCE MAIN
LOW PRESSURE SEWER
SANITARY LATERAL
SANITARY MANHOLE
SANITARY CLEANOUT
SANITARY VAULT METER
SANITARY METER
SANITARY LFT STATION
SINGLE FLUSHING CONN.
DOUBLE FLUSHING CONN.
LOW PRESSURE SEWER PUMP
L.P.S. AIR RELEASE VALVE
F.M. AIR RELEASE VALVE
GREASE TRAP
SEPTIC TANK
MONITORING WELL
STORM PIPE
ROOF DRAIN PIPE
UNDERDRAIN PIPE
STORM MANHOLE
STORM GRIB INLET
STORM CATCH BASIN
STORM YARD INLET
STORM DOWNSPOUT
STORM TRENCH DRAIN
STORM PIPE END SECTION
PROPOSED GAS LINE
GAS MANHOLE
GAS VAULT METER
GAS METER
GAS PLANT
GAS SHUTOFF VALVE
GAS MARKER
CABLE TV
OVERHEAD ELECTRIC
OVERHEAD TELEPHONE
UNDERGROUND FIBER OPTIC
UNDERGROUND TELEPHONE
ELECTRIC VAULT
ELECTRIC MANHOLE
ELECTRIC TRANS. PAD
ELECTRIC TRANS. VAULT
ELECTRIC HANDHOLE
ELECTRIC POWER POLE
PHONE RISER
PHONE VAULT
PHONE MANHOLE
ELECTRIC METER
CLEAN OUT

UTILITY NOTES

1. ALL PROJECTS WILL REQUIRE A PRE-CONSTRUCTION MEETING WITH THE CITY OF BLOOMINGTON UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR AND/OR DEVELOPER MUST CONTACT UTILITIES TECHNICIAN AT (812) 349-3613 TO SCHEDULE THE MEETING.
2. CONTRACTOR SHALL NOTIFY THE CITY OF BLOOMINGTON UTILITIES ENGINEERING DEPARTMENT ONE (1) WORKING DAY PRIOR TO CONSTRUCTION OF ANY WATER, STORM OR SANITARY SEWER UTILITY WORK. A CBU INSPECTOR MUST HAVE NOTICE SO WORK CAN BE INSPECTED, DOCUMENTED, AND A PROFILE AS-BUILT MADE. WHEN A CONTRACTOR WORKS ON WEEKENDS, A CBU DESIGNATED HOLIDAY, OR BEYOND NORMAL CBU WORK HOURS, THE CONTRACTOR WILL PAY FOR THEIR INSPECTOR'S OVERTIME. FOR CBU WORK HOURS AND HOLIDAY INFORMATION, PLEASE CONTACT THE CITY OF BLOOMINGTON UTILITIES ENGINEERING DEPARTMENT AT (812) 349-3640.
3. SEE SPECIFICATIONS FOR SIZES OF WATER SERVICE LINES AND SEWER LATERALS NOT SPECIFICALLY NOTED ON THE PLANS.
4. MS.L = IF SHOWN ON THE PLANS, = MINIMUM SEWER ELEVATION. IT INDICATES THE LOWEST FLOOR ELEVATION THAT WILL ALLOW GRAVITY SEWER SERVICE WITHOUT A SPECIAL BACKWATER VALVE. ANY FLOOR ELEVATION THAT WILL BE SERVED BY GRAVITY SEWER MUST BE ABOVE THE RIM ELEVATION OF THE UPSTREAM SANITARY MANHOLE. IF NOT A BACKWATER VALVE MUST BE INSTALLED ACCORDING TO SEC. 409(A) OF THE UNIFORM PLUMBING CODE. SEE SPECIFICATIONS PACKET FOR MORE DETAIL.
5. ON ALL EXISTING SANITARY MAINS, WYES SHALL BE CUT AND SLEEVED IN PLACE BY CITY OF BLOOMINGTON UTILITIES PERSONNEL WITH CITY OF BLOOMINGTON UTILITIES FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR INSTALLATION. DEVELOPER SHALL PROVIDE ALL NECESSARY EXCAVATION, SHORING, BACKFILL, AND SURFACE REPAIR. PLEASE CONTACT NANCY ASOM AT (812) 349-3488 FOR MORE INFORMATION.
6. WHEN CONNECTING A NEW PIPE TO AN EXISTING MANHOLE, THE MANHOLE SHALL BE CORE DRILLED. PIPE SHALL BE CONNECTED TO THE MANHOLE BY EITHER A FLEXIBLE BOOT KOR-N-SEAL 1 OR 2 FLEXIBLE CONNECTOR OR APPROVED EQUAL. TABLE AND TROUGH SHALL BE MODIFIED AS NECESSARY TO DIRECT THE FLOW FROM THE NEW PIPE. INVERT OF CONNECTION SHALL BE NO MORE THAN ONE FOOT HIGHER THAN THE INVERT OUT FOR THIS STRUCTURE.
7. IN ACCORDANCE WITH SECTION 4.3.2.1.5.1. OF THE CBU CONSTRUCTION SPECIFICATIONS ALL SEWER LATERALS SHALL HAVE A CLEAN-OUT AT LEAST EVERY 90 FEET. ALL CLEAN-OUTS, WEATHER IN GRASSY AREAS OR IN PAVEMENT, SHALL BE SUB-SURFACE AND PROTECTED BY A SUITABLE METAL CASTING SUCH AS EAST JORDAN CATALOGUE NO. 2975 OR NEENAH CATALOGUE NO. R-19 N.A. IN GRASSY AREAS, THE CASTING SHALL BE PROVIDED WITH A CIRCULAR CONCRETE COLLAR FLUSH WITH THE TOP OF THE CASTING AND THE GROUND SURFACE. THE COLLAR SHALL BE MINIMUM 6" THICK AND SHALL EXTEND AT LEAST 8" BEYOND THE OUTSIDE OF THE CASTING ON ALL SIDES. IN PAVEMENT, THE TOP OF THE CASTINGS SHALL BE FLUSH WITH THE SURROUNDING PAVEMENT. TOP OF CLEAN-OUT SHALL BE NO MORE THAN 2" BELOW THE TOP OF THE CASTING. A #10 INSULATED SOLID COPPER LOCATOR WIRE SHALL BE WRAPPED AROUND ALL NON-METALLIC PIPES SO THAT ONE REVOLUTION IS MADE AT LEAST EVERY PIPE JOINT. SPLICES ARE TO BE MADE WITH AN APPROVED CONNECTOR, AND ARE TO BE SUITABLY PROTECTED AGAINST CORROSION. THE WIRE IS TO BE BROUGHT TO THE SURFACE WITH A CLEAN-OUT IN A CASTING. ALSO SEE THE CBU CONSTRUCTION SPECIFICATIONS FOR THE "STANDARD SANITARY LATERAL CLEAN-OUT DETAIL #15".
8. WHEREVER C900 PIPE IS USED FOR SEWER, ALL WYES SHALL BE MARCO, SIZED FOR C900 ON THE RUN AND SDR-35 ON THE BRANCH. TRANSITION FROM C900 TO SDR-35 PIPE SHALL BE MADE BY USE OF A MARCO C900 TO SDR-35 ADAPTER WYES.
9. ALL D.I.P. USED FOR SANITARY SEWER SHALL HAVE CERAMIC EPOXY LINING, MINIMUM THICKNESS 40 MILS, AND SHALL BE PROTECTED 40L AS MANUFACTURED BY INDURON PROTECTIVE COATINGS. WYES FOR D.I.P. SHALL BE MARCO D.I.P. TO SDR-35 ADAPTER WYES.
10. A PERMANENT INDICATING CONTROL VALVE SHALL BE INSTALLED ON THE FIRE LINE 1.7' ABOVE THE FLOOR AT THE TERMINATION POINT. THIS VALVE WILL BE USED TO HYDROSTATIC PRESSURE TEST AGAINST AND WILL REMAIN AS A PART OF THE SYSTEM. ONCE ALL TESTING IS COMPLETE, THE LINE WILL NOT BE DISMANTLED FOR CONNECTION TO THE FIRE SUPPRESSION SYSTEM. PLEASE CONTACT NANCY ASOM (812-349-3639) FOR ADDITIONAL INFORMATION.
11. ALL DUCTILE IRON PIPE (DIP) WILL REQUIRE POLYETHYLENE ENCASEMENT SLEEVES AND SHALL BE 8-MIL LINEAR LOW-DENSITY (LLD) POLYETHYLENE ENCASEMENT OR 4-MIL HIGH-DENSITY CROSS-LAMINATED (HDCL) POLYETHYLENE ENCASEMENT MATERIAL, INCLUSIVE OF VALVES AND FITTINGS. THE MATERIAL SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH ANSI/AWWA C105/A21.5, USING PLASTIC TIE STRAPS OR CIRCUMFERENTIAL OR ADHESIVE TAPE PROVIDING THE PIPE WITH A SECURE PROTECTIVE ENCLOSURE.

TOPOGRAPHIC LEGEND

RR SPIKE
STONE
REBAR
IRON PIPE
MAG NAIL
UTILITY POLE
LIGHT POLE
ELECTRIC METER
CLEAN OUT
GAS METER
GUY WIRE
ELECTRIC MANHOLE
ELECTRIC VAULT
ELECTRIC HANDHOLE
ELECTRIC TRANSFORMER
SANITARY MANHOLE
AIR CONDITIONER
GAS VALVE
COMMUNICATION MANHOLE
COMMUNICATION VAULT
FIBER OPTIC MANHOLE
FIBER OPTIC VAULT
CONCRETE BOLLARD
SIGN
T-POST
UNKNOWN MANHOLE
UNKNOWN LID
MONITORING WELL
STEAM MANHOLE
STEAM METER
STEAM VAULT
STORM MANHOLE
CURB INLET
INLET ROUND
INLET SQUARE
YARD INLET
DOWN SPOUT DRAIN
WATER VALVE
WATER MANHOLE
WATER METER
FIRE HYDRANT
CONIFEROUS TREE
DECIDOUS TREE
OVERHEAD WIRES — OHW
CHAIN-LINK FENCE
SANITARY SEWER — SS
UNDERGROUND GAS LINE — G
UNDERGROUND ELECTRIC LINE — E
UNDERGROUND COMMUNICATION LINE — C
WATER LINE — W
STORM SEWER — ST

UTILITY KEY NOTES

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING 6" WATER MAIN. NOTIFY ENGINEER IF REVISIONS ARE NECESSARY. TAP EXISTING 6" WATER LINE USING A TAPPING VALVE AND SADDLE PER CBU REQUIREMENTS.
2. SEE PLUMBING PLANS FOR CONTINUATION INTO TOWNHOUSES.
3. CLEANOUT PER CBU DETAIL 19 (SHEET C110).
4. IF EXISTING SANITARY LATERAL TAP IS UNABLE TO BE REUSED, PROVIDE A NEW 6" SANITARY SEWER LATERAL TAP PER CBU REQUIREMENTS.
5. RESIDENTIAL WATER METER PER CBU REQUIREMENTS.
6. INSTALL (2) 4" SCHEDULE 40 PVC CONDUIT FOR ELECTRICAL SERVICE.
7. ELECTRIC METER.
8. ELECTRIC TRANSFORMER PAD.
9. 6" PVC SDR-35 ROOF DRAIN COLLECTOR PIPE.
10. 4" PERFORATED PVC SDR 35 UNDERDRAIN WITH SOCK.
11. CONTINUES TO ELECTRIC FEED AS DESIGNATED BY DUKE ENERGY.
12. DOWNSPOUT PER DETAIL I/C110.

GENERAL NOTES

1. SEE SMITH BIRKHOB & ASSOCIATES, INC STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
2. TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS:
   MANHOLES: RIM ELEVATION
   INLETS: GUTTER ELEVATION
3. LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.

N

10 20
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SCALE: 1"=10'

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BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

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JOB NUMBER 5514
SHEET C105
DATE 08/23/2017
UTILITY PLAN

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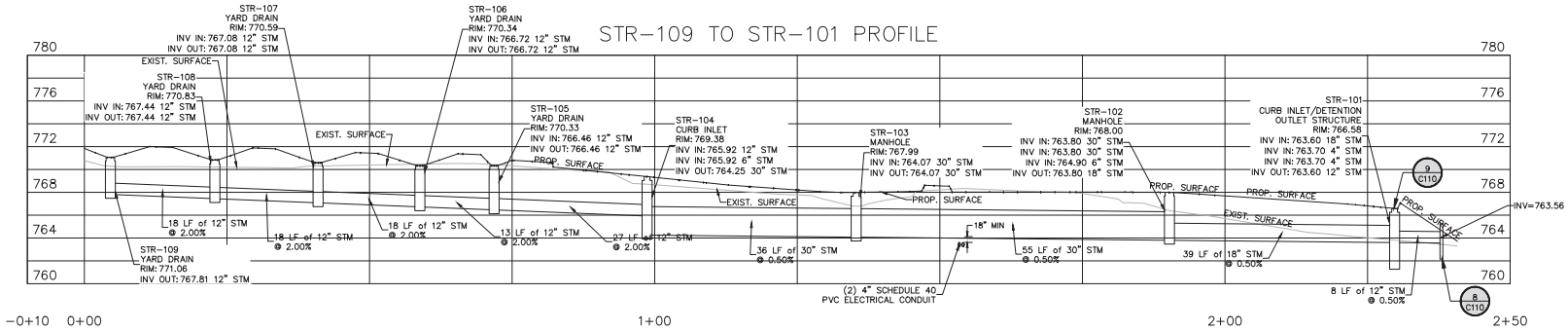
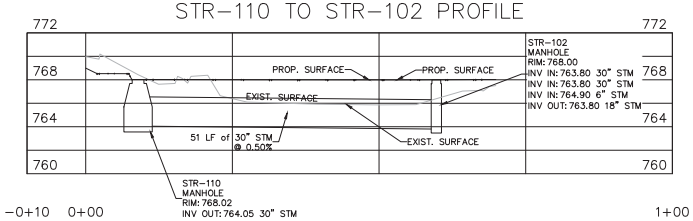
STR-109 TO STR-101 PROFILE



STR-110 TO STR-102 PROFILE



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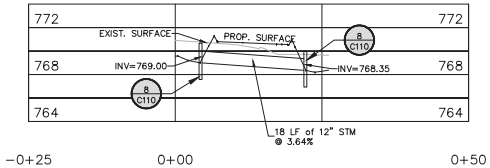

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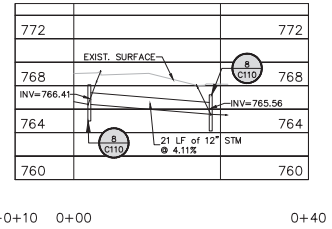
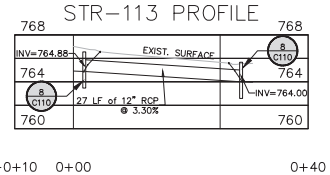


STR-113 PROFILE



STRUCTURE DATA TABLE

STRUCTURE PROPERTIES					PIPE PROPERTIES								
STRUCTURE	STRUCTURE DESCRIPTION	INDOT CASTING	CASTING	CASTING DESCRIPTION	LENGTH (ft)	SIZE (in)	TYPE	UP INV. (ft)	DN. INV. (ft)	T.C. ELEV (ft)	CLEAR (ft)	SLOPE (%)	CONNECTION
STR-101	MODIFIED INLET TYPE C	TYPE 15	EJ 7031	Curb Inlet	8	12	N-12	763.60	763.56	766.58	1.77	0.50%	N/A
STR-102	MODIFIED MH TYPE A, H, J, K	TYPE 4	EJ 1022-1	Manhole	39	18	N-12	763.80	763.60	767.99	2.48	0.51%	STR-101
STR-103	MODIFIED MH TYPE A, H, J, K	TYPE 8	EJ 7520	Curb Inlet	55	30	N-12	764.07	763.80	767.99	1.21	0.49%	STR-102
STR-104	INLET TYPE A	TYPE 8	EJ 7520	Curb Inlet	36	30	N-12	764.25	764.07	769.38	2.42	0.50%	STR-103
STR-105	NYLOPLAST 15" DRAIN BASIN 2815AG	N/A	NYLOPLAST 1599CGS	Yard Drain	27	12	N-12	766.46	765.92	770.33	2.66	2.01%	STR-104
STR-106	NYLOPLAST 12" INLINE DRAIN 2712AG	N/A	NYLOPLAST 1299CGS	Yard Drain	13	12	N-12	766.72	766.46	770.34	2.41	1.98%	STR-105
STR-107	NYLOPLAST 12" INLINE DRAIN 2712AG	N/A	NYLOPLAST 1299CGS	Yard Drain	18	12	N-12	767.08	766.72	770.59	2.30	2.00%	STR-106
STR-108	NYLOPLAST 12" INLINE DRAIN 2712AG	N/A	NYLOPLAST 1299CGS	Yard Drain	18	12	N-12	767.44	767.08	770.83	2.18	2.00%	STR-107
STR-109	NYLOPLAST 12" INLINE DRAIN 2712AG	N/A	NYLOPLAST 1299CGS	Yard Drain	18	12	N-12	767.81	767.44	771.06	2.04	2.02%	STR-108
STR-110	MODIFIED MH TYPE A, H, J, K	TYPE 4	EJ 1022-1	Manhole	51	30	N-12	764.05	763.80	768.02	1.26	0.49%	STR-102
STR-111	CULVERT	N/A	N/A	N/A	18	12	N-12	769.00	768.35	N/A	N/A	3.66%	N/A
STR-112	CULVERT	N/A	N/A	N/A	21	12	N-12	766.41	765.56	N/A	N/A	4.11%	N/A
STR-113	CULVERT	N/A	N/A	N/A	27	12	N-12	764.88	764.00	N/A	N/A	3.29%	N/A

UTILITY CONTACTS

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bm1792@att.com

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kerry.ducker@duke-energy.com

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UTILITIES (Water/Sewer)
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axsomn@bloomington.in.gov

VECTREN (Gas)
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Bloomington, IN 47404
danderson@vectren.com

COMCAST (Cable)
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Bloomington, IN 47401
scott_cripe@cable.comcast.com

UTILITY GENERAL NOTES

1) SEE SMITH BREHOB 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
2) TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS:
   A) MANHOLES: RIM ELEVATION
   B) INLETS: GUTTER ELEVATION
3) LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.

HOR: 5 10 20
VER: 2.5 5 10
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

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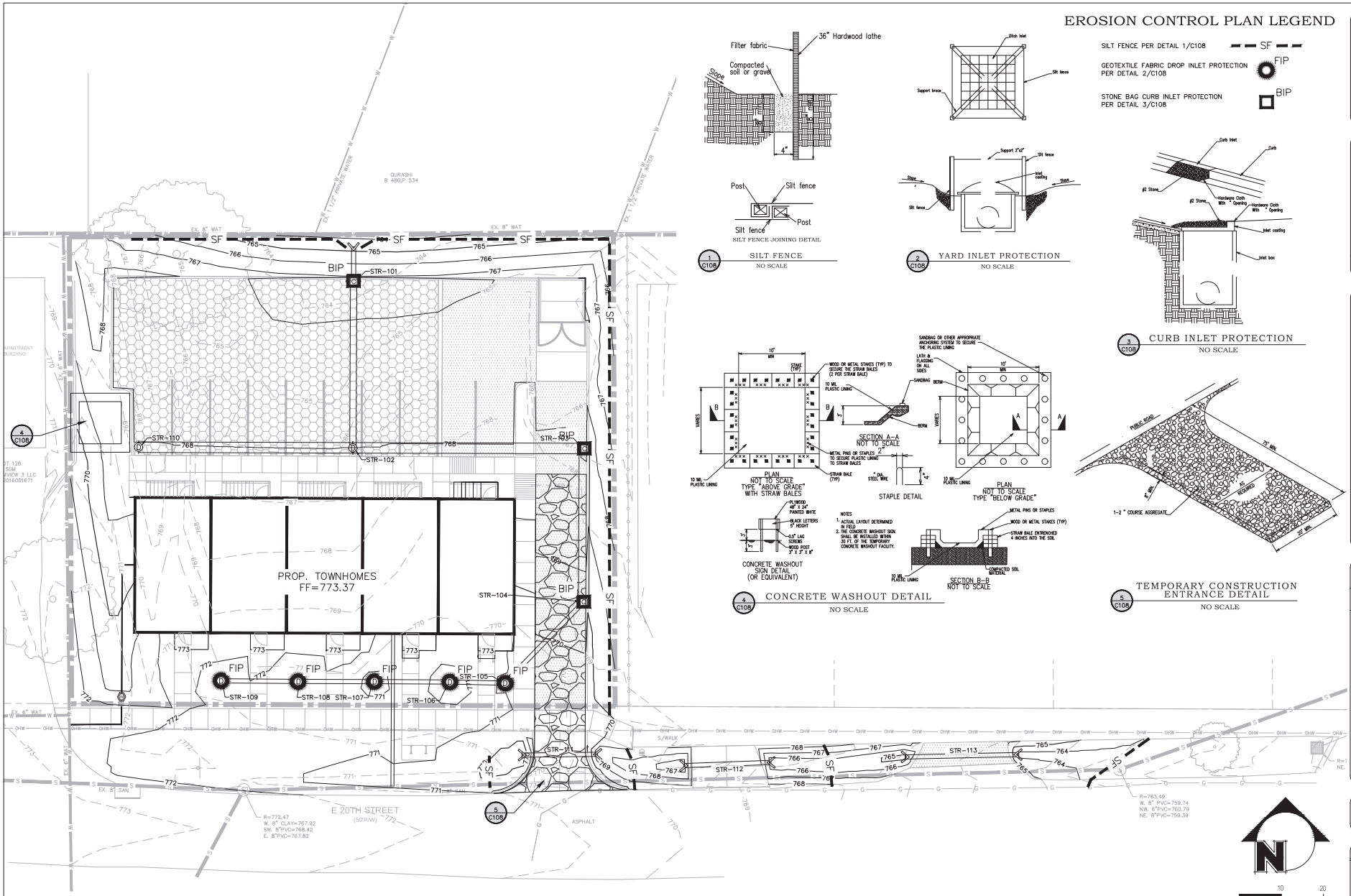
UTILITY PROFILES



EROSION CONTROL PLAN LEGEND

SILT FENCE PER DETAIL 1/C108 — SF

GEOTEXTILE FABRIC DROP INLET PROTECTION PER DETAIL 2/C108 — FIP

STONE BAG CURB INLET PROTECTION PER DETAIL 3/C108 — BIP

1 C108 SILT FENCE
NO SCALE

2 C108 YARD INLET PROTECTION
NO SCALE

3 C108 CURB INLET PROTECTION
NO SCALE

4 C108 CONCRETE WASHOUT DETAIL
NO SCALE

5 C108 TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NO SCALE

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EROSION CONTROL PLAN

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SECTION 02420
STORMWATER POLLUTION PREVENTION & EROSION CONTROL

PART 1 – GENERAL

1.01 RELATED WORK
- A. Section 02310 – Rough Grading
- B. Section 02320 – Finish Grading
- C. Section 02930 – Sodding
- D. Section 02910 – Protection for Existing Trees

1.02 REFERENCES
- A. The latest issue of the following form a part of this section to the extent indicated hereinafter.
  1. Indiana Storm Water Quality Manual published by the Indiana Department of Environmental Management October 2007 edition. (ISWQM)
  2. Indiana Code 327 IAC 15–5–7 Section 7.
  3. 2014 Indiana Department of Transportation Standard Specifications (INDOTSS)

1.03 LOCAL JURISDICTION
- A. When the work is within the jurisdiction of a local municipality, MS4 district or Soil and Water Conservation District that will inspect, review, approve, reject or report on part or all of the work being completed, the specifications and requirements of that agency shall supercede this section of the standard specifications if said agency?s specifications and requirements are more stringent.

PART 2 – PRODUCTS

2.01 MATERIALS
- A. Aggregates for use in conjunction with erosion control measures shall be in accordance with the section of the INDOTSS indicated as follows:
  1. Coarse aggregates size #2, #5, #8, and #53 shall be in accordance with Section 904.03 table (e).
  2. Rip rap for outlet protection materials shall be in accordance with Section 904.04 table (f) of the INDOTSS and Chapter 7 of the ISWQM.
- B. Pipe material for use in conjunction with erosion control measures shall be in accordance with the section of the INDOTSS indicated as follows:
  1. Corrugated Polyethylene Drainage Tubing and Smooth Wall Polyethylene Pipe shall be in accordance with Section 907.17 and 907.21 of the INDOTSS.
- C. Geotextile
  1. Geotextiles for use under rip rap shall be in accordance with Section 918.02 of the INDOTSS.
- D. Silt Fence shall conform to the minimum physical properties as shown on the table below.

Sediment Barriers and Filters: Silt Fence Table 2
Geotextile Fabric Specifications for Silt Fence (Minimum)

Physical Property	Woven fabric	Non-woven fabric
Filtering efficiency	85%	85%
Tensile strength at 20% elongation:		
Standard strength	30 lbs. linear in.	50 lbs. linear in.
Extra strength	50 lbs. linear in.	70 lbs. linear in.
Slurry flow rate	0.3 gal./min./sq.ft.	4.5 gal./min./sq.ft.
Water flow rate	15 gal./min./sq.ft.	220 gal./min./sq.ft.
UV resistance	70%	85%
Post Spacing	7 feet	5 feet

- E. Temporary Gravel Construction Entrances
  1. Construction entrances shall be installed using materials specified in ISWQM Chapter 7.
- F. Erosion Control Blankets
  1. Erosion control blankets and turf reinforcement shall be the type indicated on the plans as manufactured by North American Green or equal approved by Owner's Representative.
- G. Temporary Seeding
  1. Grass species recommended for temporary seeding shall be as follows during these time periods:

Winter wheat or rye	9/15 to 10/30
Spring oats	3/1 to 4/15
Annual ryegrass	3/1 to 5/1, 8/1 to 9/1
German millet	5/1 to 6/1
Sudangrass	5/1 to 7/30
Buckwheat	4/15 to 6/1
Corn (broadcast)	5/11 to 8/10
Sorgham	5/1 to 7/15

- H. Mulching Material
  1. Mulching material may be straw or hay, Excelsior blankets, paper mat, straw mat or aspen wood cellulose fiber mulch.

PART 3 – EXECUTION

3.01 SCHEDULING/SEQUENCING
- A. Existing Vegetation
  1. If existing vegetation must be cleared, it shall be retained and protected until the area must be disturbed.
  2. A buffer strip of existing vegetation must be maintained around the perimeter of the site to reduce off–site erosion and sedimentation.
- B. Duration
  1. The extent and duration that bare soil is exposed to erosion by wind and water should be minimized. Clearing and grading operation shall be scheduled to reduce the amount of disturbed area to the absolute minimum needed for immediate construction activity.
- C. Stabilization
  1. All disturbed ground left inactive for seven or more days shall be stabilized appropriately for the season. Steep slopes must be stabilized immediately.
  2. Soil storage or excavated material piles remaining more than seven days shall be stabilized by temporary or permanent seeding, sodding, traps, or other means. Erosion from piles that will be in existence for less than seven days shall be controlled by placing straw bales or silt fence barriers.

3.02 INSTALLATION AND MAINTENANCE
- A. All installation of erosion control devices and maintenance shall be in accordance with Section 205 on the INDOTSS and Section 7 of the ISWQM.
- B. Temporary gravel construction entrance
  1. Remove existing vegetation and topsoil from entrance area.
  2. Install a culvert pipe under the drive if necessary to maintain proper public road drainage.
  3. Compact subgrade soil prior to placing stone.
  4. Place #2 stone to the dimensions indicated on the plan and in the Temporary Gravel Construction Entrance Detail.
  5. Inspect entrance pad daily and after storm events or heavy use.
  6. Reshape pad as needed for drainage and runoff control.
  7. Top dress with clean stone as needed.
  8. Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
  9. Repair any broken road pavement immediately.
- C. Temporary Diversion Ditch
  1. Remove brush, trees, stumps, and debris from route of diversion.
  2. Set alignment and grades to fit site needs, maintaining a stable and positive grade towards the outlet.
  3. Construct diversion in accordance with the Temporary Diversion Ditch Detail and at the location indicated on the plans.
  4. Construct the diversion ridge in six to eight inch lifts.
  5. Compact each lift by driving wheels of construction equipment along the ridge.
  6. Overfill and compact ridge to design height plus 10 percent.
  7. Leave sufficient area along the diversion to permit clean–out and regrading.
  8. Vegetate the ridge immediately after construction, unless the diversion will be in place less than 15 days.
  9. Inspect weekly and within 24 hours following each storm event.
  10. Remove sediment from the channel and reinforce the ridge as needed.
  11. Check outlets and make necessary repairs immediately.
  12. When the work area has been stabilized, remove the ridge, fill the channel to blend with the natural ground, remove temporary slope drains, and stabilize all disturbed areas.
- D. Rock Check Dam
  1. Excavate a cut–off trench into the channel bottom and ditch banks at the locations shown on the plan, extending 18 inches beyond the top of ditch bank.
  2. Place uniform or revetment rip rap in the cut–off trench and channel in accordance with the Rock Check Dam Detail. The center of the dam must be at least nine inches lower than the uppermost points of contact between the rip rap dam and channel banks.
  3. Extend rip rap at least 18 inches beyond the channel banks to prevent overflow water from undercutting the dam as it re–enters the channel.
  4. Place filter medium on the up–slope side of the dam and over the entire face of the dam up to the base of the overflow weir notch.
  5. Inspect check dams and the channel within 24 hours after each storm event, and repair any damage immediately.
  6. If significant erosion occurs between dams, install a riprap liner in that portion of the channel.
  7. Remove sediment accumulated behind each dam when it reaches the height of the dam to maintain channel capacity, to allow drainage through the dam, and to prevent large flows from displacing sediment.
  8. Add rock to the dams as needed to maintain design height and cross section.
  9. When the dams are no longer needed, remove the rock and stabilize channel, using an erosion–resistant lining if necessary.
- E. Rock Lined Chute.
  1. Divert surface water runoff around the structure during construction so site can be properly dewatered.
  2. Excavate the apron area subgrade below the design elevation of finished grade to allow for thickness of rip rap at the locations shown on the plans.
  3. Compact the subgrade.
  4. Place the geotextile fabric on the compacted subgrade. If more than one piece is needed, the upstream piece should overlap the downstream piece by one–foot minimum.
  5. Install rip rap in accordance with the Rock Chute Detail and the rip rap quantity given in the structure data table on the plans.
  6. Top of the rip rap chute shall be level with or slightly below the receiving channel.
  7. Blend the rip rap chute smoothly to the surrounding grade.
  8. Construct a small plunge pool within the outlet apron.
  9. Rip rap aprons must be level with or lower than the channel grade and should not restrict flow.
  10. Construct a permanent diversion ridge on either side of the riprap lined chute to collect storm water runoff and direct its flow into the chute.
  11. Inspect rock chutes 24 hours after storm events and at least every 7 days for stone displacement and for erosion at the sides and ends of the apron.
  12. Make needed repairs immediately; use appropriate size stone, and do not place them above finished grade.
- F. Inlet Protection
  1. Stone
     - a. Excavate the basin around the inlet one to two feet deep below the top of casting elevation in accordance with the Inlet Protection Detail.
     - b. Stockpile or spread excavated material so that it will not block flow or wash back into the excavation.
     - c. Install weep holes in the inlet so that the pool area drains slowly.
     - d. Cover weep holes with filter fabric and one foot of #5 stone.
     - e. If necessary, excavated material may be placed on the downstream side of the excavation to prevent by–pass flow.
     - f. Inspect the inlet protection within 24 hours after each storm event; removing sediment and making needed repairs immediately.
     - g. When the contributing drainage area has been stabilized, remove and properly dispose of all construction material and sediment, then stabilize.
     - h. Remove sediment when pool area is approximately full of sediment.
     - i. Remove and replace stone if sediment hinders drainage.
     - j. Once permanent stabilization occurs, removed sediment basin, weep holes, fill basin with soil, compact and grade to finished elevation.
  2. Silt Fence.
     - a. Dig an eight–inch deep, four–inch wide trench around the perimeter of the inlet.
     - b. If using pre–assembled silt fence and posts, drive the posts into the soil, tightly stretching the silt fence and posts by placing a piece of lathe over the fabric and fastening it to the post.
     - c. If assembling the silt fence and post on–site, drive the posts into the soil and then secure the silt fence to the posts by placing a piece of lathe over the fabric and fastening it to the post.
     - d. Use the wrap join method when joining posts.
     - e. Place the bottom 12 inches of silt fence into the eight–inch deep trench, laying the remaining four inches in the bottom of the trench and extending away from the inlet.
     - f. Backfill the trench with soil material and compact it in place.
     - g. Brace the posts by nailing braces into each corner posts or utilize rigid panels to support fabric.
     - h. If storm water may bypass the structure, set the top of the silt fence at least six inches lower than the ground elevation on the down–slope side of the storm inlet, build a temporary dike compacted six inches higher than the silt fence on the down–slope side of the of storm inlet and use in conjunction with excavated drop inlet protection.
     - i. Inspect daily and within 24 hours after each storm event and make needed repairs immediately.
     - j. Remove sediment from the pool area to provide storage for the next storm. Avoid damaging or undercutting the fabric during sediment removal.
     - k. When the contributing drainage area has been stabilized, remove and properly dispose of all construction material and sediment, grade the area to the elevation of the top of the inlet, then stabilize.
- G. Curb Inlet Protection.
  1. Fill UV stabilized geotextile fabric bags approximately full with washed gravel or aggregate.
  2. For inlets located on a slope gradient:
     - a. At a position up slope of the inlet, lay bags tightly in a row curving up slope from the inlet and away from the curb.
     - b. Overlap bags onto the curb and extend a minimum of three feet into the street, keeping bags tightly abutted together.
     - c. For additional layers of bags, overlap the bags with the row beneath and leave a one–bag gap (at or below curb height) in the middle of the top row to serve as a spillway. If the spillway height is higher than the top of the curb, place additional bags along the curb to prevent bypass flow.
     - d. For additional storage capacity, construct a series of stone bag barriers along the curb so each one traps small amounts of sediment.
  3. For inlets located in a sump position:
     - a. Place bags in an arc around the curb inlet.
     - b. Overlap bags onto the curb, keeping bags tightly abutted together.
     - c. For additional layers of bags, overlap the bags with the row beneath and leave a one–bag gap (at or below curb height) in the middle of the top row to serve as a spillway. If the spillway height is higher than the top of the curb, place additional bags along the curb to prevent bypass flow.
  4. Place a traffic barricade at each installed measure for safety and to prevent measure integrity.
  5. Inspect daily and removed accumulated sediment from paved area (do not flush with water) within 24 hours after each storm event.
  6. Deposit sediment in area where it will not re–enter the paved area or storm drains.
  7. Inspect for damage by vehicular traffic and repair if needed.
  8. When the contributing drainage areas have been stabilized, remove inlet protection.
- H. Temporary Sediment Trap.
  1. Divert run–off from non–disturbed areas away from the trap.
  2. Clear all existing vegetation and topsoil from the embankment area.
  3. Using compactable material, construct the embankment at the location indicated on the plans and in accordance with the Temporary Sediment Trap Detail.
  4. Construct the embankment six inches above design elevation to allow for settling.
  5. Excavate a trapezoidal outlet section from the embankment.
  6. Install geotextile fabric in the trapezoidal outlet section, extending the fabric up the sides of the outlet section to the top of the embankment.
  7. Place INDOT revetment rip rap in accordance with the detail to create a dense mass. The spillway crest must be level with a minimum depth of 1 feet, measured from the highest stones in the spillway weir notch to the top of the dam.
  8. Cover the upstream face of the riprap outlet section with a 12–inch thick layer of INDOT CA No.5 aggregate.
  9. On the downstream side of the spillway, construct an outlet apron at the toe of the embankment. Construct the apron as indicated on the plans and in accordance with the Temporary Sediment Trap Detail.
  10. Place geotextile fabric or aggregate bedding material on the compacted and smoothed foundation and install riprap as indicated on the plans and in accordance with the Temporary Sediment Trap Detail.
  11. Construct a small plunge pool within the outlet apron. Riprap aprons must be level with or slightly lower than the receiving channel and should not produce an overfall or restrict flow of the water conveyance structure.
  12. Stabilize the embankment and other disturbed areas with seed and mulch (anchored in place) or another suitable erosion resistant cover.
  13. Inspect within 24 hours of a rain event and at least once every seven days.
  14. Remove sediment when it has accumulated to one–half the design depth.
  15. Check the embankment for erosion and piping holes and repair immediately.
  16. Check pool area side slopes for erosion and repair immediately.
  17. Replace spillway aggregate facing is the sediment pool does not dewater with 48–72 hours following a storm water runoff event.
  18. Inspect vegetation and reseed if necessary.
  19. Check the spillway depth periodically to ensure a minimum of 1 feet. depth from the lowest point of the settled embankment to highest point of the spillway crest, and fill any low areas to maintain design elevation.
  20. Promptly replace any displaced riprap, being careful that no stones in the spillway are above design grade.
  21. After all disturbed areas have been stabilized, remove the structure and sediment, smooth the site to blend with adjoining areas, and stabilize.
- I. Silt Fence.
  1. Plan for the fence to be at least ten feet from the toe of the slope to provide a sediment storage area.
  2. Provide access to the area for maintenance.
  3. Locate silt fence outlet at location shown on the plans.
  4. Locate the outlet weir posts four feet apart and place a 2 X 4 horizontal brace between the posts.
  5. Excavate the foundation for the outlet one foot deep, five feet wide and a minimum of five feet in length.
  6. Install uniform rip rap in the outlet area.
  7. Along the entire intended fence line, dig an eight inch deep by four–inch wide trench.
  8. Install the silt fence with filter fabric located on the up–slope side of the excavated trench and the support posts on the down–slope side of the trench.
  9. Install support posts at least 18 inches into the ground, tightly stretching the fabric between the posts as each is driven into the soil. A minimum of 12 inches of the filter fabric should extend into the trench.
  10. Lay the lower four inches of filter fabric on the bottom of the trench and extend it toward the up–slope side of the trench.
  11. Backfill the trench with compacted earth or gravel.
  12. Inspect the silt fence at least every seven days and within 24 hours after each storm event.
  13. If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.
  14. Remove deposited sediment when it is causing the filter fabric to bulge or when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.
  15. Take care to avoid undermining the fence during clean out.
  16. After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade, and stabilize.
- J. Temporary Seeding
  1. Determine the appropriate seed species based on the optimum dates for planting as shown in the table below.
  2. Apply seed uniformly with a drill or culti–packer – seeder or by broadcasting and cover to the depth as shown in the table below.
  3. Mulch seeded areas in accordance with Section 621.05 (c), (d), (e), (f), and (g) of the INDOTSS.
  4. Inspect weekly after planting to see that vegetative stands are adequately established; re–seed if necessary.
  5. Check for erosion damage within 24 hours after storm events and repair; reseed and mulch if necessary.
  6. Topdress fall seeded wheat or rye seedings with 50 lbs/acre of nitrogen in February or March if nitrogen deficiency is apparent.

Exhibit 3.11-B. Temporary Seeding Recommendations

Seed Species*	Rate/acre	Planting Depth	Optimum dates**
Wheat or rye	150 lbs.	1 to 1½ in.	9/15 to 10/30
Spring oats	100 lbs	1 in.	3/1 to 4/15
Annual ryegrass	40 lbs.	¼ in.	3/1 to 5/1 8/1 to 9/1
German millet	40 lbs	1 to 2 in.	5/1 to 6/1
Sudangrass	35 lbs.	1 to 2 in.	5/1 to 7/30
Buckwheat	60 lbs.	1 to 2 in.	4/15 to 6/1
Corn (broadcast)	300 lbs.	1 to 2 in.	5/11 to 8/10
Sorghum	35 lbs.	1 to 2 in.	5/1 to 7/15

*Perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than a year (Practice 3.12).
**Seeding done outside the optimum dates increases the chances of seeding failure.

3.03 MAINTENANCE & INSPECTIONS
- A. The general contractor is responsible for inspection and determining that erosion control measures are installed as shown on the plans. Inspection of all storm water pollution prevention practice measures shall be made by a trained individual on a weekly basis and after every inch rainfall event. Records of inspections made and corrective measures taken shall be recorded and kept in a location where they may be made available to the Indiana Department of Environmental Management inspectors within a 48 hr time frame should they be requested.
- B. Additional erosion control measures may need to be installed based on the prosecution of the work.
- C. Removal of accumulated sediment from any erosion control device is required throughout construction. Failure to remove accumulated sediment can result in failure of the device. Failure of any erosion control device will result in the required re–installation of said device.

3.04 CLEAN UP
- A. When construction is completed and the area is stabilized, remove erosion control measures no longer necessary in a manner that minimizes site disturbance and seed immediately.
- B. All silt, dust or debris shall be cleaned from adjoining public streets, if necessary, immediately following a storm event and at the completion of the project.

PART 4 – MATERIAL HANDLING, SPILL PREVENTION & SPILL CLEAN UP

4.01 MATERIAL HANDLING & SPILL PREVENTION
- A. Throughout construction operators of equipment that carry potential pollutants shall take every available measure to prevent possible spills. Vehicle operators of all kinds shall not allow the seepage or dumping of potential contaminant fluids or other contaminant materials onto the ground. Vehicle washing and fluid changing shall take place offsite at areas set up to prevent the possibility of contaminants entering the ground water or at designated areas on site.
- B. Used oils, fuels, antifreeze and other materials may be considered hazardous and must be disposed of at approved sites. For disposal site information contact the IDEM at 888–233–7745.
- C. Place all drained lubricants, fuels, etc. in closed containers. Remove them from the site for disposal or recycling in accordance with all Federal, State and Local requirements.
- D. Drain oil filters when hot and dispose of used filters, oil cans and grease tubes properly. Drained metal cans and filters can be recycled as scrap metal.
- E. Maintain all equipment to avoid leaks.
- F. Concrete Waste Management –
  1. Concrete waste management procedures and practices are implemented on construction projects where:
     - a. Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
     - b. Slurries containing Portland cement concrete or asphalt concrete are generated, such as from saw cutting, coring, grinding, grooving, and hydro–concrete demolition.
     - c. Concrete trucks and other concrete–coated equipment are washed onsite.
     - d. Mortar–mixing stations exist.
  2. Perform washout of concrete trucks offsite or in designated areas only. For onsite washout, a sign should be installed adjacent to the washout facility to inform concrete equipment operators to utilize the proper facilities. One of the following methods may be used: 1.) Use of a delayed set additive. Washout occurs offsite in an area where washout water is treated before coming into contact with environment. 2.) Recycle washout water back into the cement truck 3.) KIC system (www.kicsystems.com) – driver washes out into a barrel that is then removed from site 4.) Concrete Washout Inc. (www.concretewashout.com) trucks wash out into a dumpster like system and then dry concrete is removed. Use of other methods may be used if approved by the local MS4 or Soil and Water Conservation District.
  3. Installation of Concrete Washout Facilities
     - a. Prefabricated or Design and Installed Systems are acceptable.
     - b. For prefabricated systems, install and locate according to manufacture's recommendations
     - c. For Designed and Installed systems, either excavate a pit or install the containment system.
     - d. Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples or other fasteners.
     - e. Place flags, safety fencing or equivalent to provide a barrier to construction equipment and other traffic.
     - f. Install signage that identifies concrete washout areas.
     - g. Post signs directing contractors and suppliers to designated locations.
  4. Maintenance of concrete washout facilities
     - a. For prefabricated systems follow the manufacturer's recommendations for maintenance.
     - b. Inspect daily and after each concrete pour.
     - c. Inspect the integrity of the overall structure including, where applicable, the containment system.
     - d. Inspect the system for leaks, spills and tracking of soil by equipment.
     - e. Inspect the polyethylene lining for failure, including tears and punctures.
     - f. Once concrete wastes harden, remove and dispose of the material.
     - g. Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean the structure.
     - h. Repair the structure as needed or construct a new system upon removal of the solids.
     - i. Dispose of all concrete in a legal manner. Reuse the material on site, recycle or haul the material to an approved construction/demolition landfill site.
     - j. The plastic liner should be replaced after every cleaning.
     - k. The concrete washout system should be repaired or enlarged as necessary.
     - l. When concrete washout systems are no longer required, the concrete washout systems shall be closed. Dispose of all hardened concrete and other materials used to construct the system.
  5. Washout Procedures
     - a. Do not leave excessive mud in the chutes or hopper after the pour.
     - b. At washout location, scrape as much material from the chutes as possible before washing them.
     - c. Remove as much mud as possible when washing out
     - d. Do not back flush the equipment at the project site.
     - e. Do not use additives with wash water. Do not use solvents or acids that may be used at the target plant.

4.02 SPILL CLEAN UP
- A. Expected construction materials on site may include vehicle lubricants, oils, vehicular fuels, concrete wash–outs, acids, curing compounds, paints, solvents, pesticides, herbicides, fertilizers.
- B. Small spills and leaks of these materials onto paved areas shall be shoveled into containers and disposed of in accordance with all Federal, State and Local regulations. Provide receptacles, a spill kit and instructions for use in breakdown situations. At a minimum, the spill kit should include shovels, plastic sheeting for containment, plastic container to hold spill contaminated material, 2 bags of absorbent (dry sand, oil–dry, kitty litter, peat moss, ground corncobs, sawdust and new straw are suitable absorbing materials).
- C. Spills may be temporarily handled by: 1.) placing contaminated materials on heavy plastics and covering to protect from rainfall; 2.) using absorbents to soak up spilled materials or easy removal; 3.) constructing a dike to prevent off site movement of material. If possible, vehicle maintenance shall be completed offsite at a facility designed to handle any spillage, this shall include fueling of vehicles when possible. The local fire department, Indiana Department of Environmental Management Emergency, Office of Emergency Response 1–888 233–7745 shall be notified immediately for larger spills or leaks. The National Response Center (800) 424–8802 shall be notified and provided with the following information: Time of Spill, Location of Spill, Material, Source of Spill, Approximate Volume and Length of Spillage, Weather Conditions at the Time of the Spill, Personnel Present at Time of the Spill and All Action Taken for Post Spill Clean–up.
- D. Contractor shall contact a waste recovery agency immediately following the spill for removal of contaminates and coordination of monitoring the site during clean–up operations until all hazardous material has been removed. Contractor shall coordinate with the Indiana Department of Environmental Management during and after the spill to insure all required clean–up and filing of reports are properly submitted. Responsibility for reporting spills is outlined in IAC 327 2–6.1–7 (4).
- E. The Contractor shall maintain a list of qualified contractors for spill remediation on site. All site personnel, including maintenance employees, shall be made aware of proper spill prevention and remediation techniques.

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08/23/2017

403 E. 20TH STREET
BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

DESIGNED KCK
DRAFTED KCK
CHECKED
DATE

JOB NUMBER 5514
SHEET C109
DATE 08/23/2017
EROSION CONTROL NOTES

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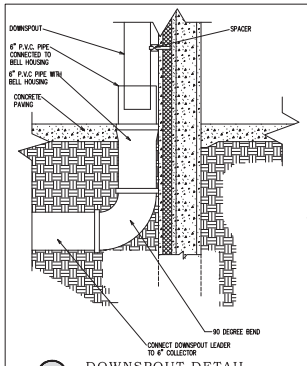

1 C110 DOWNSPOUT DETAIL
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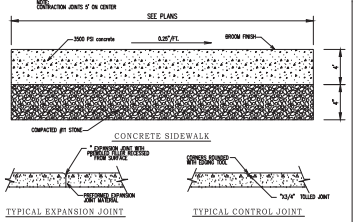

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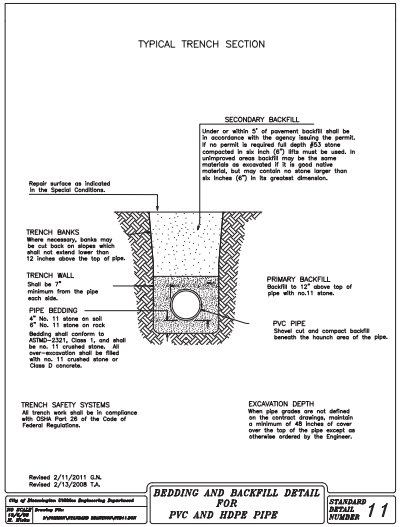

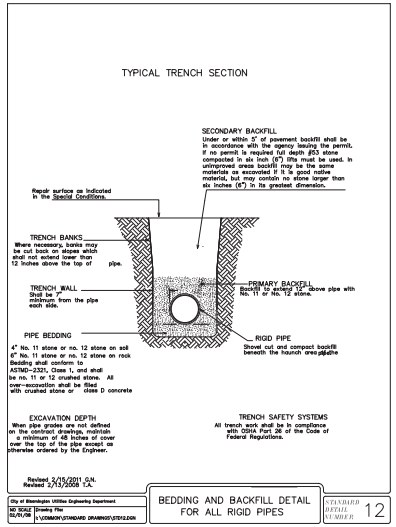

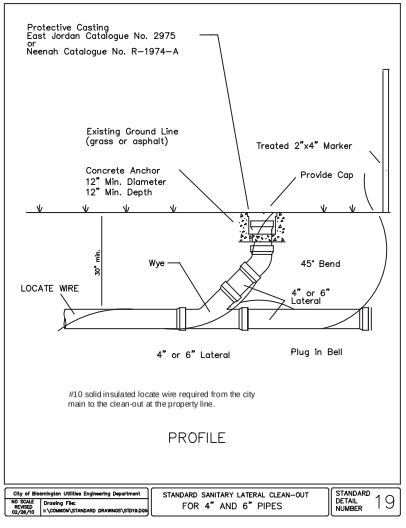

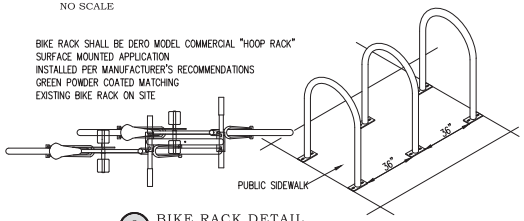

3 C110 BIKE RACK DETAIL
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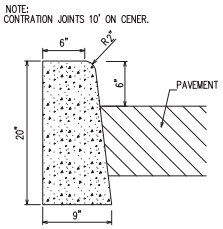

4 C110 STANDING CONCRETE CURB DETAIL
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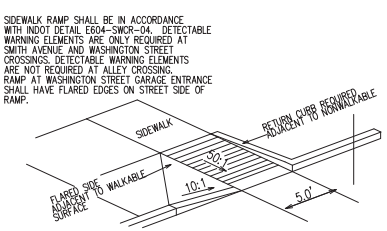

5 C110 PERPENDICULAR CURB RAMP DETAIL
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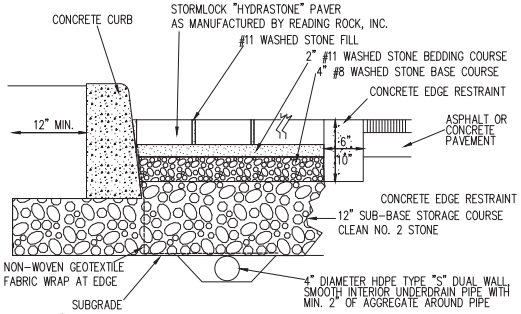

6 C110 PERMEABLE PAVER DETAIL
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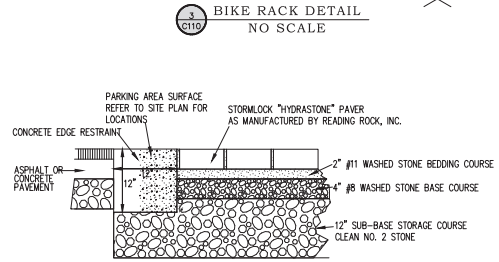

7 C110 CONCRETE EDGE RESTRAINT DETAIL
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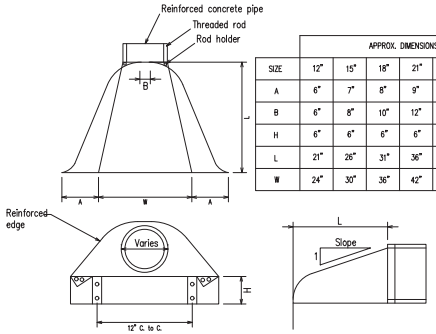
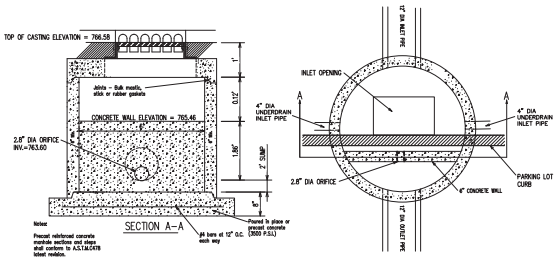
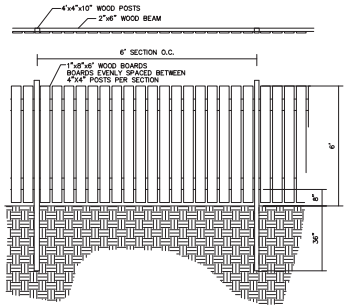


	APPROX. DIMENSIONS					
SIZE	12"	15"	18"	21"	24"	30"
A	6"	7"	8"	9"	10"	12"
B	6"	8"	10"	12"	13"	16"
H	6"	6"	6"	6"	6"	18"
L	21"	26"	31"	36"	41"	51"
W	24"	30"	36"	42"	48"	60"

8 C110 END SECTION DETAIL
NO SCALE



9 C110 OUTLET STRUCTURE DETAIL
NO SCALE



10 C110 SCREEN FENCE DETAIL
NO SCALE

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08/23/2017

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BLOOMINGTON, IN 47408

REVISIONS	BY	DATE

DESIGNED KCK
DRAWN KCK
CHECKED
DATE

JOB NUMBER 5514
SHEET C110
DATE 08/23/2017
CIVIL DETAILS

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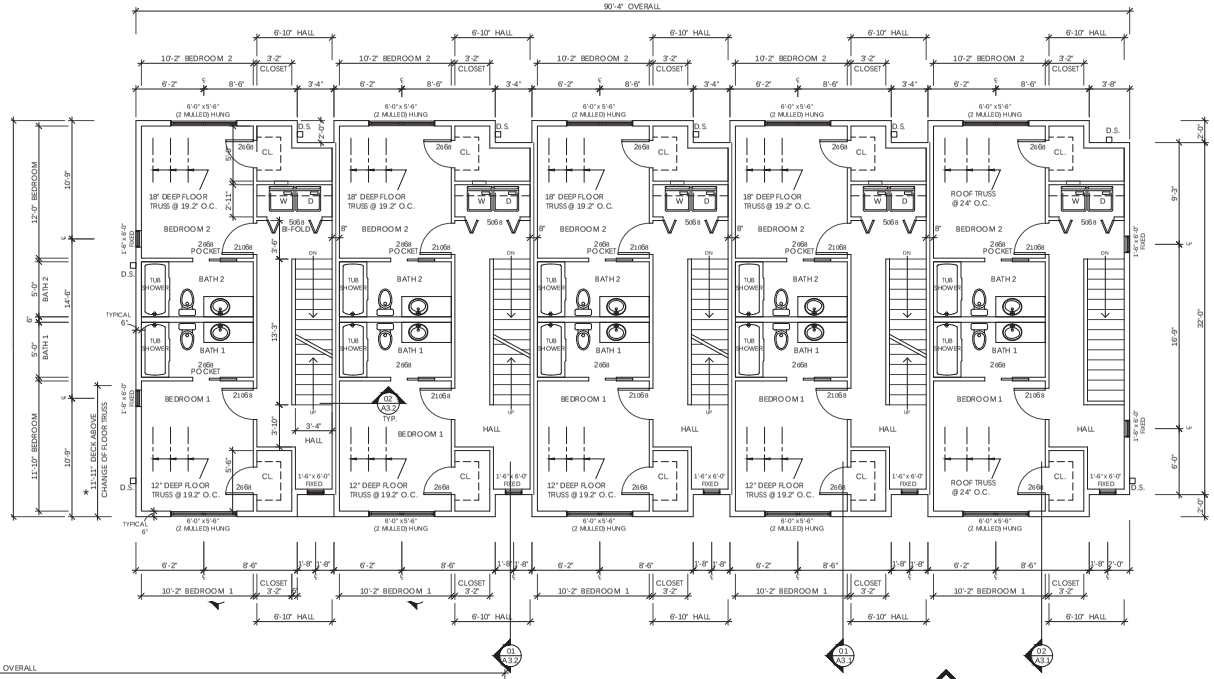
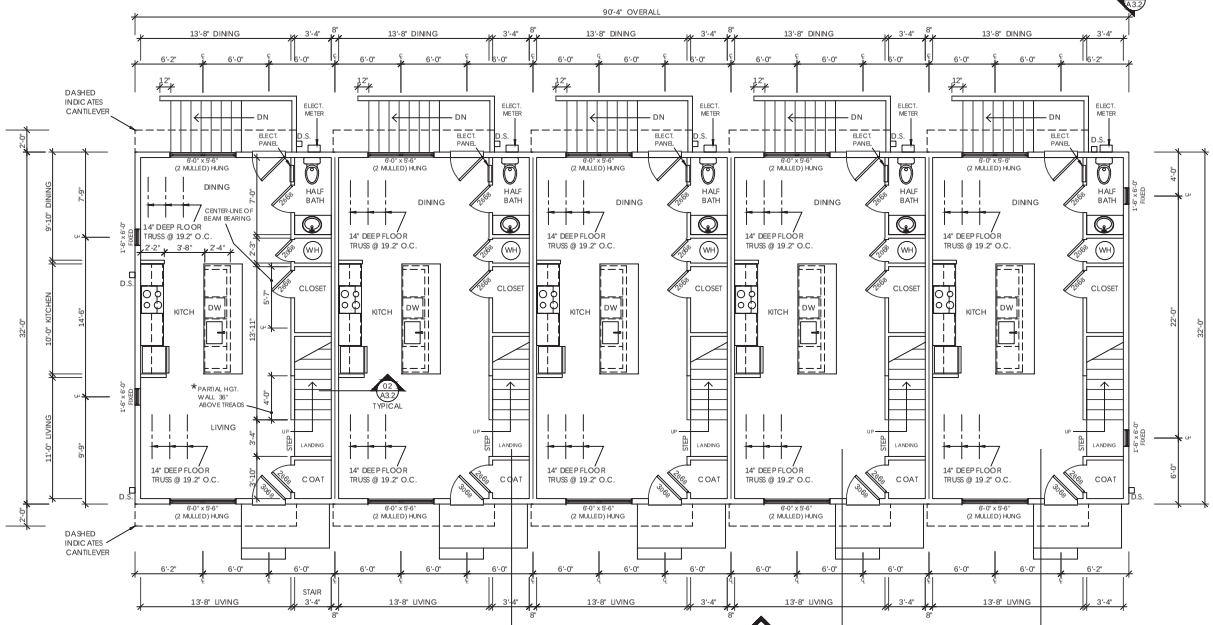


02 A2.0 SECOND FLOOR PLAN
SCALE: 3/16" = 1'-0"



01 A2.0 FIRST FLOOR PLAN
SCALE: 3/16" = 1'-0"

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ISSUE **SD SET**

JOB NO. **17-XX**

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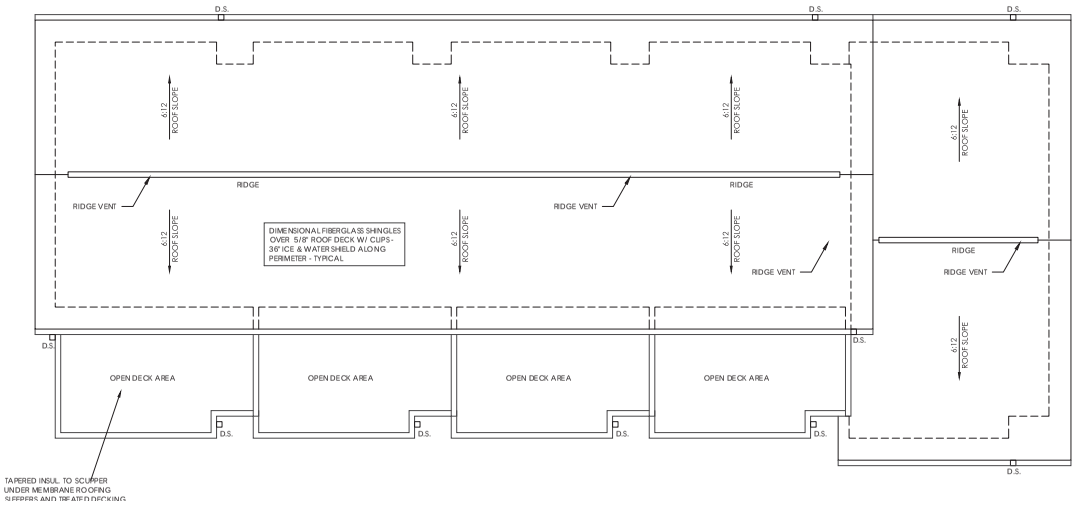
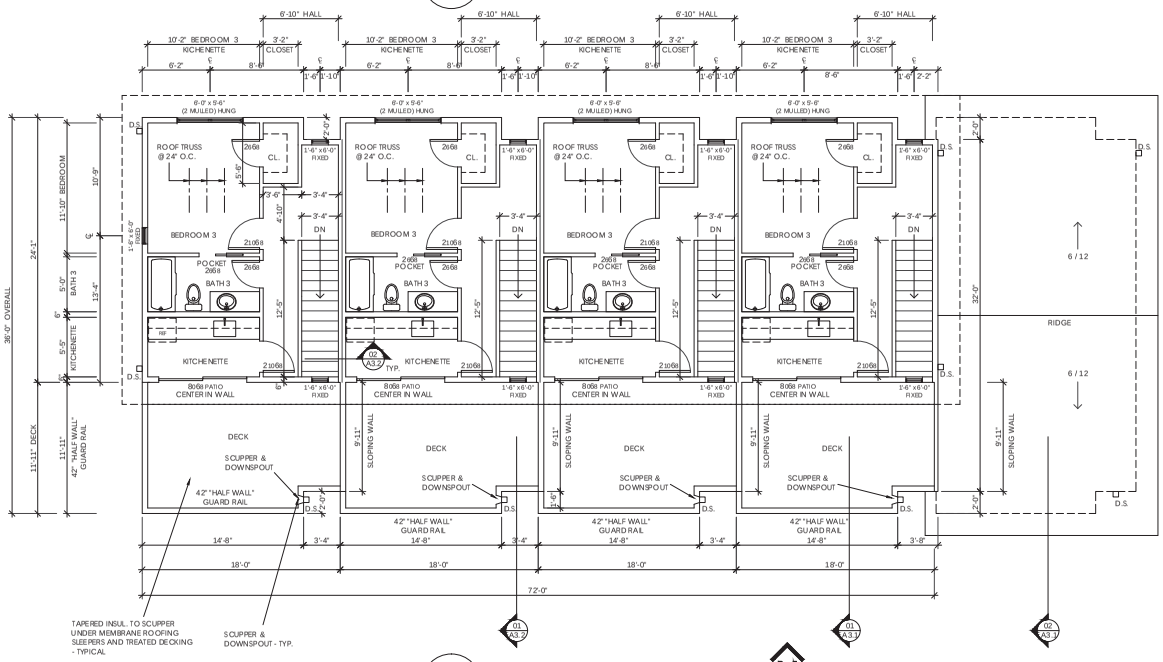
A2.0

FIRST & SECOND FLOOR PLANS



02 A2.1 ROOF PLAN
SCALE: 3/16" = 1'-0"



01 A2.1 THIRD FLOOR PLAN
SCALE: 3/16" = 1'-0"

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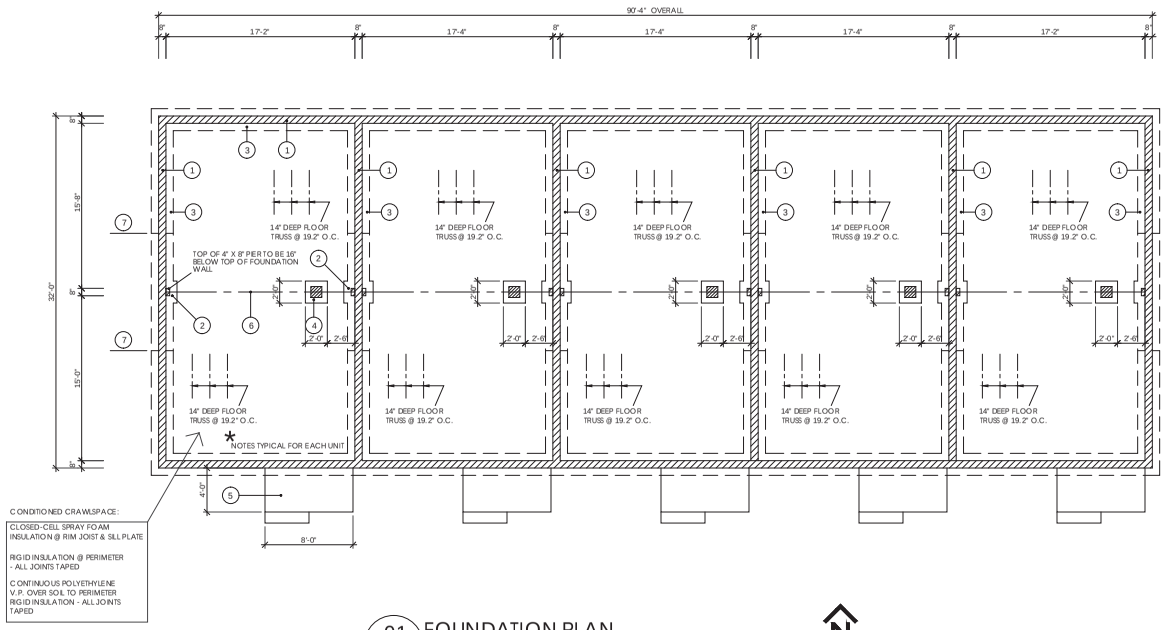
A2.1
THIRD FLOOR & ROOF PLANS

FOUNDATION PLAN GENERAL NOTES

1. FOOTING SIZE & DEPTH ARE BASED UPON VIRGIN SOIL OR ENGINEERED FILL HAVING BEARING CAPACITY OF 2000 P.S.F. CONFIRM SITE CONDITIONS ARE SUCH AT TIME OF EXCAVATION OR AFTER ENGINEERED FILL.
2. ALL CMUS TO BE 2 CELLED UNITS, 8" X 16" OR 12" X 16" FACES LAID IN RUNNING BOND. UNITS ABOVE GRADE TO BE "SPLIT-FACE", TOP COURSE & COURSES BELOW GRADE TO BE STANDARD "FLAT-FACE".
3. FOOTING CONCRETE TO BE 3000 PSI DESIGN STRENGTH, SLAB CONCRETE TO BE 4000 PSI. REBARS/STEEL MESH AS NOTED.
4. PROVIDE .006 VISQUEEN BAPOR BARRIER BETWEEN SLAB & GRANULAR COMPACTED BASE. ALL SOILS TO BE TERMITE TREATED PRIOR TO LAYING OF VISQUEEN.
5. PROVIDE 3" MIN. COVER AT BOTTOM OF POURED CONC. FOOTINGS.
6. PROVIDE 2" TH. X 2'-0" H RIGID INSULATION AT FOUNDATION PERIMETER.

FOUNDATION PLAN KEY

1. 8" CMU FOUNDATION WALL
2. 4" x 8" SOLID CMU PIER @ FOUNDATION WALL WIDEN FOOTING 8' @ THIS LOCATION - TOP OF PIER TO BE 16" BELOW TOP OF FOUNDATION WALL
3. 12" X 24" CONC. FOOTING W/(3) #5'S CONT.
4. 12" X 12" CONCRETE BLOCK PIER W/ 24" X 24" X 12" REINFORCED CONCRETE FOOTING W/ (3) #5'S EACH WAY
5. ENTRY SLAB - 4" CONC. SLAB W/6X6 W1.4 X W1.4 WWF OVER 4" COMPACTED BASE (#53 STONE AGGREGATE)
6. BEAM LINE ABOVE (SEE FRAMING PLANS)
7. STEP FOOTING W/ GRADE - CONFIRM SITE CONDITIONS



01 A2.2 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"

N

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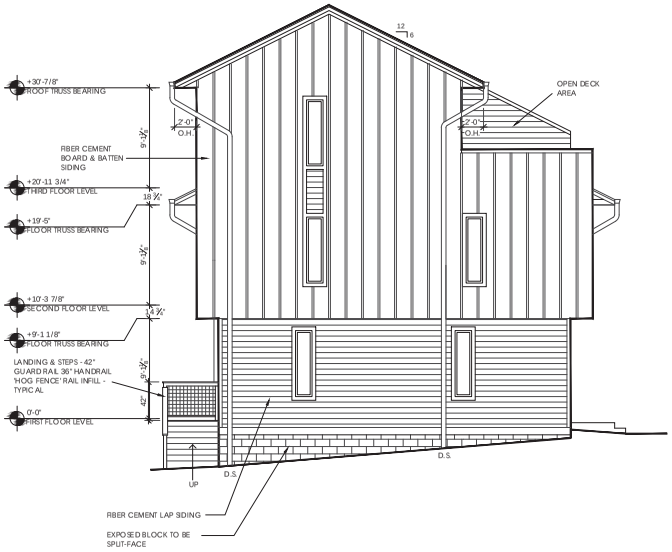
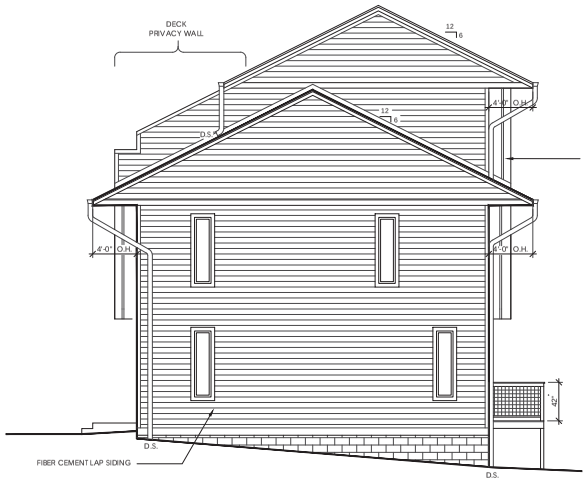
A2.2

FOUNDATION PLAN



03 WEST ELEVATION
A3.0 SCALE: 3/16" = 1'-0"

01 SOUTH ELEVATION
A3.0 SCALE: 3/16" = 1'-0"



04 EAST ELEVATION
A3.0 SCALE: 3/16" = 1'-0"

02 NORTH ELEVATION
A3.0 SCALE: 3/16" = 1'-0"

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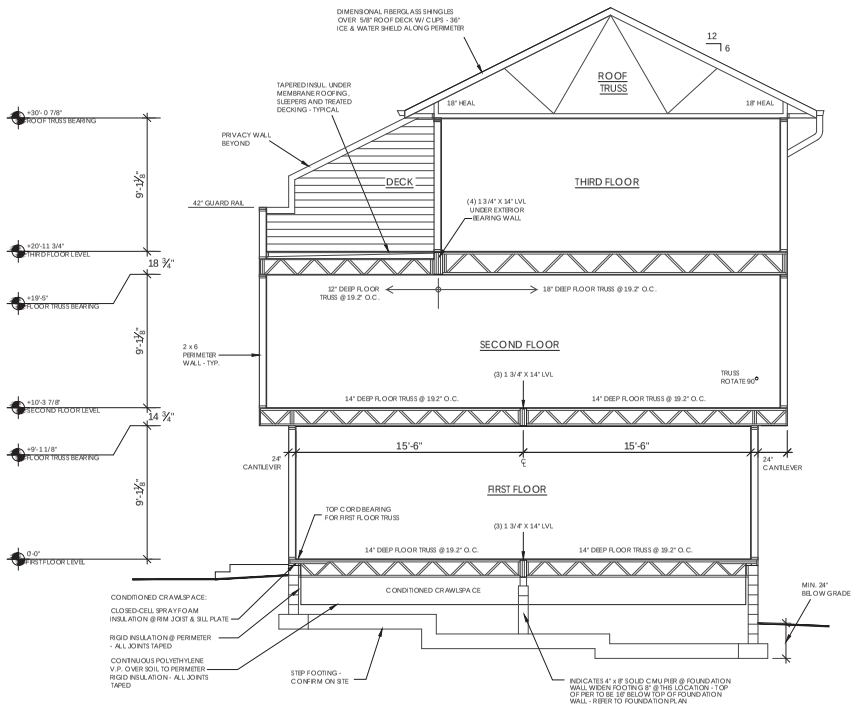
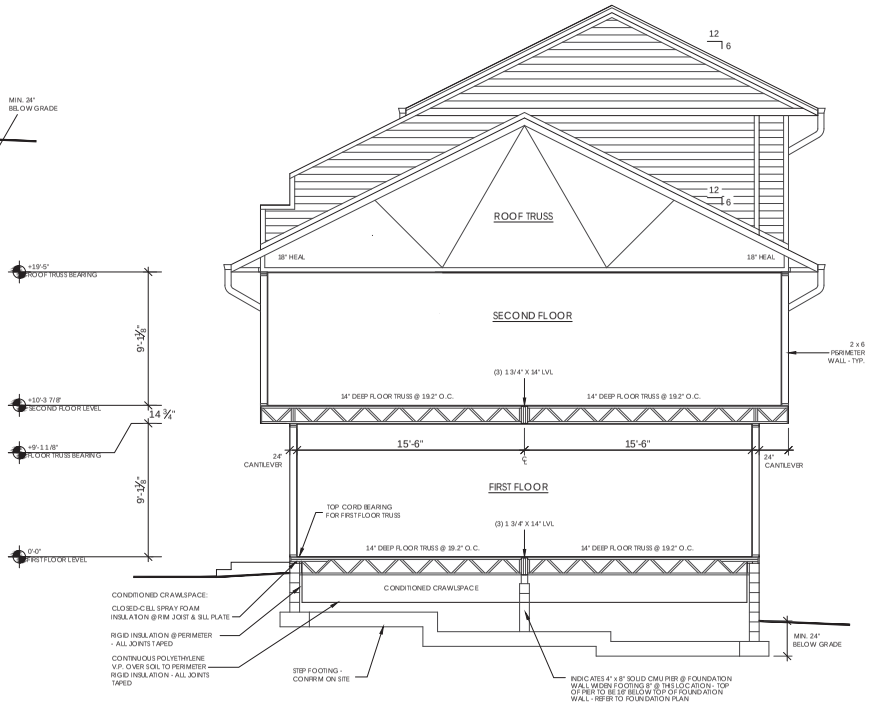
A3.0
ELEVATIONS



01 SECTION
A3.1 SCALE: 1/4" = 1'-0"



02 SECTION
A3.1 SCALE: 1/4" = 1'-0"

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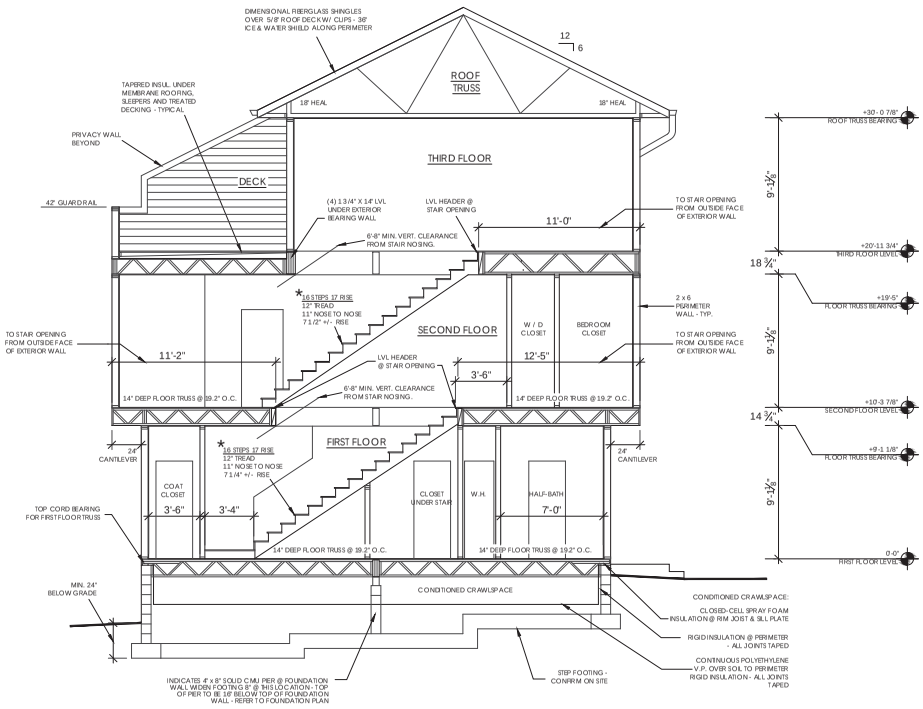
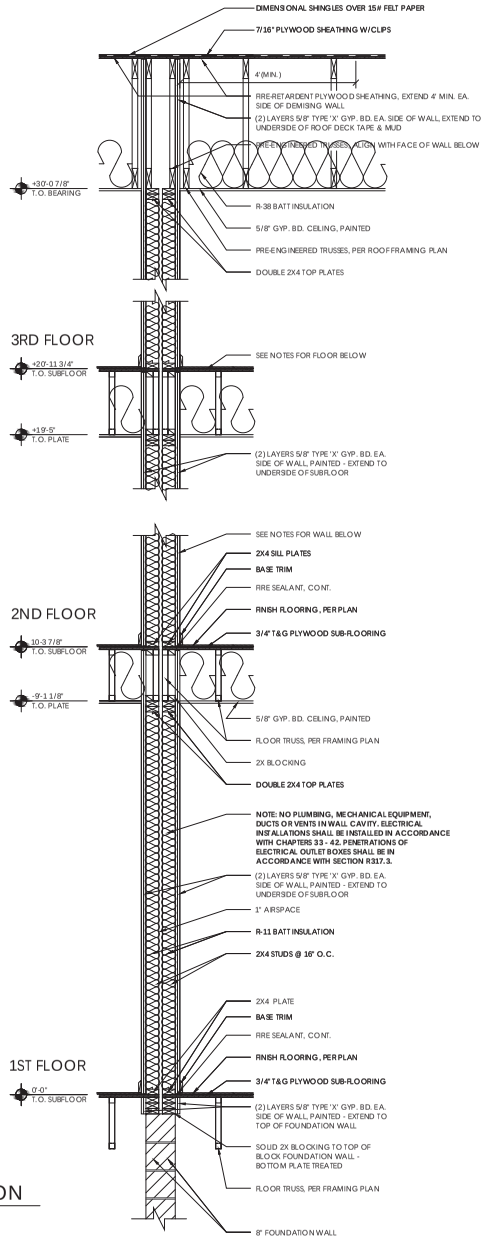
A3.1
SECTIONS



01 / A3.2 STAIR SECTION
SCALE: 1/4" = 1'-0"



02 / A3.2 DEVISING WALL SECTION
SCALE: 3/4" = 1'-0"

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A3.2
3
SECTION
WALL SECTION

Google StreetView Image: 9/13/17 www.google.com/maps