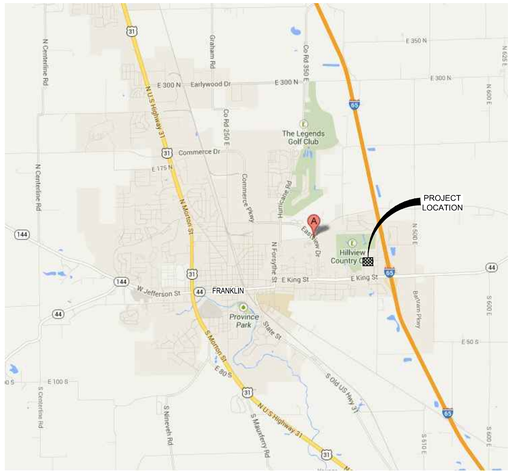
FINAL CONSTRUCTION PLANS

MARRIOTT FAIRFIELD INN & SUITES

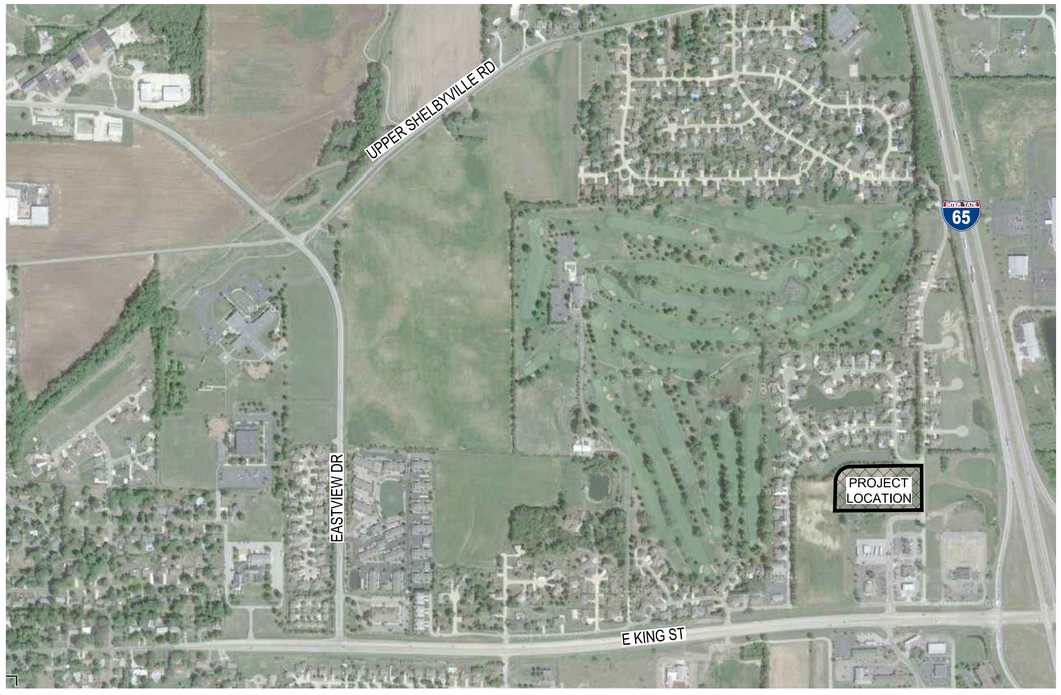
350 PARIS DRIVE

FRANKLIN, INDIANA



VICINITY MAP

NO SCALE



LOCATION MAP

NO SCALE

OWNER

JART PROPERTIES, INC.
1037 W JEFFERSON STREET
FRANKLIN, IN 46131
PHONE: (317) 979-3559
CONTACT: ROB RICHARDSON
EMAIL: ROB.HHSLLC@GMAIL.COM

DEVELOPER

HOTEL DEVELOPMENT SERVICES, INC.
125 W SPRING STREET
OXFORD, OH 45056
PHONE: (513) 524-9500
CONTACT: DAVID WESPISER
EMAIL: DAVE@HOTELDEVELOPMENT.NET

ENGINEER

CROSSROAD ENGINEERS, PC
3417 SHERMAN DRIVE
BEECH GROVE, IN 46107
PHONE: (317) 780-1555
CONTACT: GREG J. ILKO
EMAIL: GILKO@CROSSROADENGINEERS.COM

PLAN INDEX

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

SHEET 100

TITLE SHEET

MARRIOTT FAIRFIELD INN & SUITES

JOB No. . | DRAWN KLF / LMC | CHECKED TEN | APPR. GJI
DATE SEPTEMBER 15, 2017 | DESIGNED DMS

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

NO.	DATE	REVISIONS	BY	APPR.
1				
2				
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5				
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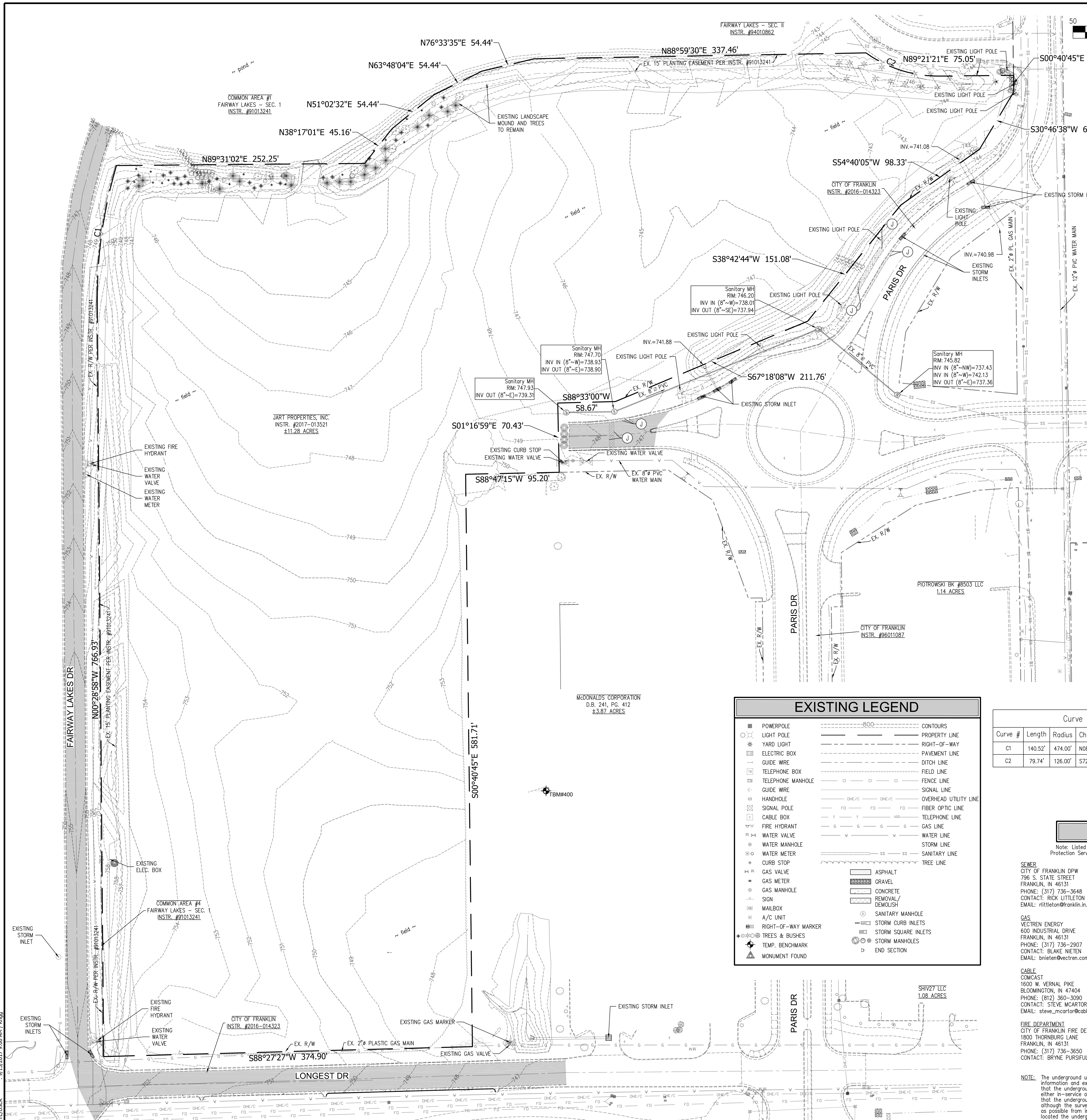
7				
8				
9				

SHEET 100

DIRECTORY PATH : R:\Active\Hotel Development Services, LLC\Design\CAD\Plans
FILENAME : 100 TITLE BLOCK.dwg
DATE/USER : 9/15/2017 8:57 AM / Dsnyder



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

THESE PLANS ARE BASED UPON INFORMATION FROM AN ALTA/ACSM LAND TITLE SURVEY PERFORMED BY SEA GROUP, LLC WITH PROJECT NUMBER C11-6272 AND DATED DECEMBER 13, 2016 (LATEST REVISION)

EXISTING LEGEND

POWERPOLE	CONTOURS
LIGHT POLE	PROPERTY LINE
YARD LIGHT	RIGHT-OF-WAY
ELECTRIC BOX	PAVEMENT LINE
GUIDE WIRE	DITCH LINE
TELEPHONE BOX	FIELD LINE
TELEPHONE MANHOLE	FENCE LINE
GUIDE WIRE	SIGNAL LINE
HANDHOLE	OVERHEAD UTILITY LINE
SIGNAL POLE	FIBER OPTIC LINE
CABLE BOX	TELEPHONE LINE
FIRE HYDRANT	GAS LINE
WATER VALVE	WATER LINE
WATER MANHOLE	STORM LINE
WATER METER	SANITARY LINE
CURB STOP	TREE LINE
GAS VALVE	ASPHALT
GAS METER	GRAVEL
GAS MANHOLE	CONCRETE
SIGN	REMOVAL/ DEMOLISH
MAILBOX	
A/C UNIT	SANITARY MANHOLE
RIGHT-OF-WAY MARKER	STORM CURB INLETS
TREES & BUSHES	STORM SQUARE INLETS
TEMP. BENCHMARK	STORM MANHOLES
MONUMENT FOUND	END SECTION

Curve Table

Curve #	Length	Radius	Chord Direction	Chord Length
C1	140.52'	474.00'	N08°00'36"E	140.01'
C2	79.74'	126.00'	S72°30'47"E	78.42'

UTILITIES

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

SEWER
CITY OF FRANKLIN DPW
796 S. STATE STREET
FRANKLIN, IN 46131
PHONE: (317) 736-3648
CONTACT: RICK LITTLETON
EMAIL: rlittleton@franklin.in.gov

WATER
INDIANA AMERICAN WATER
425 W. MAIN STREET
MOORESVILLE, IN 46158
PHONE: (317) 831-3385
CONTACT: TROY BRYANT
EMAIL: james.bryant@amwater.com

GAS
VECTREN ENERGY
600 INDUSTRIAL DRIVE
FRANKLIN, IN 46131
PHONE: (317) 736-2907
CONTACT: BLAKE NIETEN
EMAIL: bnieten@vectren.com

FIBER OPTIC
CENTURY LINK
1147 N. MORTON STREET
FRANKLIN, IN 46131
PHONE: (317) 736-4863
CONTACT: DAVID MEYERS
EMAIL: david.meyers@centurylink.com

CABLE
COMCAST
1600 W. VERNAL PIKE
BLOOMINGTON, IN 47404
PHONE: (812) 360-3090
CONTACT: STEVE MCARTOR
EMAIL: steve_mcartor@cable.comcast.com

METRO FIBERNET
8036 COLE WOOD BLVD.
INDIANAPOLIS, IN 46239
PHONE: (317) 809-8067
CONTACT: DOUG RECKART
EMAIL: doug.reckart@metronetinc.com

FIRE DEPARTMENT
CITY OF FRANKLIN FIRE DEPARTMENT
1800 THORNBURG LANE
FRANKLIN, IN 46131
PHONE: (317) 736-3650
CONTACT: BRYNE PURSIFULL

ELECTRIC
DUKE ENERGY (SERVICE)
2515 N. MORTON STREET
FRANKLIN, IN 46131
PHONE: (317) 736-2014
CONTACT: JOSEPH NEUENSCHWANDER
EMAIL: joseph.neuenschwander@duke-energy.com

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

811
Know what's below.
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BENCHMARK INFORMATION

ORIGINATING BENCHMARK

DESIGNATION -X 13
PID - KA0010
STATE/COUNTY - IN/MORGAN
USGS QUAD - MOORESVILLE EAST (1980)

VERT ORDER - FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY.
IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.

RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW SESC- AT THE INTERSECTION OF THE NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT-OF-WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

TBM#400
CUT 'X' ON S.E. ANCHOR BOLT OF BIG (FOR INTERSTATE) McDONALDS SIGN NW OF McDONALDS BUILDING.
ELEV.=751.96

TOPOGRAPHICAL NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
2. UTILITIES ARE GRAPHICAL REPRESENTATION PER SURVEY AND MAPPING. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. WELLS AND SEPTIC SYSTEMS SHALL BE ABANDONED PER ALL FEDERAL, STATE, AND LOCAL REGULATIONS. A REPRESENTATIVE FROM THE JOHNSON COUNTY HEALTH DEPARTMENT SHALL BE PRESENT DURING REMOVAL OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HAZARDOUS MATERIAL TESTING AND REMOVAL (IF DEEMED NECESSARY) FOR THE EXISTING STRUCTURES.
4. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES FOR SERVICE DIS-CONNECTIONS.

FLOODPLAIN INFORMATION

THE SUBJECT PARCEL LIES OUTSIDE ALL FLOODWAYS, FLOODWAY FRINGES, AND FLOODPLAINS. BY GRAPHIC PLOTTING ONLY, THIS TRACT OF LAND DESCRIBED HEREON LIES WITHIN ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS PLOTTED BY HAND ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR THE CITY OF FRANKLIN, JOHNSON COUNTY, INDIANA, COMMUNITY PANEL NO. 18081C0231D AND 18081C0232D, WHICH BEAR EFFECTIVE DATES OF AUGUST 2, 2007.

LEGAL DESCRIPTION

INSTR. #2017-013521
PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN, IN THE CITY OF FRANKLIN, JOHNSON COUNTY, INDIANA, DESCRIBED AS FOLLOWS: BEGINNING ON THE EAST LINE OF THE SAID HALF QUARTER SECTION 86.68 FEET SOUTH OF THE NORTHEAST CORNER THEREOF; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST ON AND ALONG THE SAID EAST LINE 393.63 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 191.58 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 580.54 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 70.00 FEET; THENCE NORTH 00 DEGREES 40 MINUTES 45 SECONDS WEST 580.45 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 300.00 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 581.71 FEET; THENCE NORTH 88 DEGREES 29 MINUTES 20 SECONDS EAST 225.42 FEET; THENCE NORTH 88 DEGREES 47 MINUTES 15 SECONDS EAST 65.54 FEET; THENCE SOUTH 01 DEGREE 12 MINUTES 45 SECONDS EAST 50.00 FEET TO THE NORTH RIGHT-OF-WAY LINE OF STATE ROAD 44; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST ON AND ALONG THE SAID RIGHT-OF-WAY LINE 65.54 FEET; THENCE SOUTH 88 DEGREES 14 MINUTES 16 SECONDS WEST ON AND ALONG THE SAID RIGHT-OF-WAY LINE 414.25 FEET; THENCE SOUTH 87 DEGREES 16 MINUTES 14 SECONDS WEST ON AND ALONG THE SAID RIGHT-OF-WAY LINE 187.85 FEET TO THE SOUTHEAST CORNER OF FAIRWAY LAKES, SECTION 1, AS RECORDED IN PLAT CABINET C, PAGE 515, THENCE NORTH 00 DEGREES 28 MINUTES 58 SECONDS WEST 50.04 FEET; THENCE NORTH 87 DEGREES 16 MINUTES 14 SECONDS EAST 1.00 FEET; THENCE NORTH 00 DEGREES 28 MINUTES 58 SECONDS WEST 772.48 FEET; THENCE NORTHEASTERLY ON A TANGENT CURVE TO THE RIGHT WHICH HAS A RADIUS OF 474.00 FEET A CURVED DISTANCE OF 140.52 FEET; SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH 08 DEGREES 00 MINUTES 36 SECONDS EAST 140.01 FEET; THENCE NORTH 89 DEGREES 31 MINUTES 02 SECONDS EAST 252.25 FEET; THENCE NORTH 38 DEGREES 17 MINUTES 01 SECONDS EAST 45.16 FEET; THENCE NORTH 51 DEGREES 02 MINUTES 32 SECONDS EAST 54.44 FEET; THENCE NORTH 63 DEGREES 48 MINUTES 04 SECONDS EAST 54.44 FEET; THENCE NORTH 76 DEGREES 33 MINUTES 35 SECONDS EAST 54.44 FEET; THENCE NORTH 88 DEGREES 59 MINUTES 30 SECONDS EAST 337.46 FEET; THENCE SOUTHEASTERLY ON A CURVE TO THE LEFT WHICH HAS A RADIUS OF 126.00 FEET A CURVED DISTANCE OF 79.75 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH 72 DEGREES 30 MINUTES 47 SECONDS EAST 78.42 FEET; THENCE NORTH 89 DEGREES 21 MINUTES EAST 75.05 FEET TO THE POINT OF BEGINNING, CONTAINING 14.868 ACRES MORE OR LESS.

EXCEPTING THEREFROM THAT PORTION OF REAL ESTATE TAKEN FOR RIGHT-OF-WAY AS SET OUT IN DEDICATION OF PUBLIC RIGHT-OF-WAY FROM TRIPLE T PROPERTY INVESTMENTS, INC. (GRANTOR) TO CITY OF FRANKLIN, INDIANA (GRANTEE) RECORDED JUNE 29, 2016 AS INSTRUMENT NO. 2016-14323 AND DESCRIBED AS FOLLOWS:

PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN JOHNSON COUNTY, INDIANA, AND BEING THAT PART OF THE GRANTOR'S LAND DEPICTED ON THE RIGHT OF WAY PARCEL PLAT MARKED AS EXHIBIT B ON INSTRUMENT NO. 2016-14323 AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID HALF QUARTER SECTION, SAID POINT BEING DESIGNATED AS "429" ON SAID PARCEL PLAT; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 103.59 FEET ALONG THE EAST LINE OF SAID HALF QUARTER SECTION TO THE POINT OF BEGINNING; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 120.11 FEET ALONG THE GRANTOR'S EAST LINE AND EAST LINE OF SAID HALF QUARTER SECTIONS; THENCE SOUTH 53 DEGREES 44 MINUTES 56 SECONDS WEST 80.82 FEET TO POINT "530" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 31 DEGREES 37 MINUTES 22 SECONDS WEST 89.12 FEET TO POINT "531" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 07 DEGREES 48 MINUTES 39 SECONDS WEST 52.41 FEET TO POINT "532" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 84 DEGREES 13 MINUTES 58 SECONDS EAST 120.70 FEET TO THE GRANTOR'S EAST LINE; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 18.78 FEET ALONG THE GRANTOR'S EAST LINE; THENCE SOUTH 89 DEGREES 08 MINUTES 30 SECONDS WEST 261.58 FEET TO THE POINT "535" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 49.94 FEET TO A SOUTHEAST CORNER OF THE GRANTOR'S LAND; THENCE SOUTH 89 DEGREES 08 MINUTES 36 SECONDS WEST 204.80 FEET ALONG A SOUTH LINE OF THE GRANTOR'S LAND; THENCE NORTH 00 DEGREES 55 MINUTES 53 SECONDS WEST 70.27 FEET TO PONT "537" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 88 DEGREES 54 MINUTES 21 SECONDS EAST 5867 FEET; TO POINT "538" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 67 DEGREES 39 MINUTES 29 SECONDS EAST 211.76 FEET TO POINT "539" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 39 DEGREES 04 MINUTES 05 SECONDS EAST 151.08 FEET TO POINT "540" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 55 DEGREES 01 MINUTES 26 SECONDS EAST 98.33 FEET TO POINT "541" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 31 DEGREES 07 MINUTES 31 SECONDS 67.76 FEET TO THE POINT OF BEGINNING. (CONTAINING 1.218 ACRES MORE OR LESS)

ALSO EXCEPTING:

PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN JOHNSON COUNTY, INDIANA, AND BEING THAT PART OF THE GRANTOR'S LAND DEPICTED ON THE RIGHT OF WAY PARCEL PLAT MARKED AS EXHIBIT B OF INSTRUMENT NO. 2016-14323 AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID HALF QUARTER SECTION, SAID POINT BEING DESIGNATED AS "429" ON SAID PARCEL PLAT, THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 1060.85 FEET ALONG THE EAST LINE OF SAID HALF QUARTER SECTION; THENCE SOUTH 89 DEGREES 28 MINUTES 38 SECONDS WEST 270.64 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION, SAID POINT BEING A CORNER OF THE GRANTOR; THENCE SOUTH 00 DEGREES 51 MINUTES 22 SECONDS EAST 50.00 FEET ALONG AN EAST LINE OF THE GRANTOR TO THE SOUTHEAST CORNER THEREOF; THENCE SOUTH 89 DEGREES 08 MINUTES 36 SECONDS WEST 65.54 FEET ALONG THE GRANTOR'S SOUTH LINE; THENCE SOUTH 88 DEGREES 35 MINUTES 39 SECONDS WEST 414.25 FEET ALONG THE GRANTOR'S SOUTH LINE; THENCE SOUTH 87 DEGREES 37 MINUTES 37 SECONDS WEST 187.85 FEET ALONG THE GRANTOR'S SOUTH LINE TO THE SOUTHWEST CORNER THEREOF, THENCE NORTH 00 DEGREES 07 MINUTES 35 SECONDS WEST 50.04 FEET ALONG GRANTOR'S WEST LINE; THENCE NORTH 00 DEGREES 07 MINUTES 35 SECONDS WEST 5.55 FEET ALONG THE GRANTOR'S WEST LINE; THENCE NORTH 88 DEGREES 48 MINUTES 50 SECONDS EAST 374.90 FEET TO A CORNER OF THE GRANTOR'S LAND; THENCE NORTH 88 DEGREES 50 MINUTES 43 SECONDS EAST 225.42 FEET ALONG A LINE OF THE GRANTOR'S; THENCE NORTH 89 DEGREES 08 MINUTES 38 SECONDS EAST 65.54 FEET ALONG A GRANTOR'S LINE TO THE POINT OF BEGINNING (CONTAINING 0.790 ACRES MORE OR LESS)

ALSO EXCEPTING:

COMMENCING ON THE EAST LINE OF THE SAID HALF QUARTER SECTION 86.68 FEET SOUTH OF THE NORTHEAST CORNER THEREOF; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS ON AND ALONG SAID EAST LINE 343.63 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 0 DEGREES 40 MINUTES 45 SECONDS EAST A DISTANCE OF 50.00 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 191.58 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 580.54 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 70.00 FEET; THENCE NORTH 00 DEGREES 40 MINUTES 45 SECONDS WEST 630.54 FEET; THENCE NORTH 88 DEGREES 47 MINUTES 15 SECONDS EAST 261.58 FEET TO THE POINT OF BEGINNING. CONTAINING 1.233 ACRES MORE OR LESS.

TOPOGRAPHICAL SURVEY

MARRIOTT FAIRFIELD INN & SUITES

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

JOB No.	DRAWN KLF/LMC	CHECKED TEN	
DATE SEPTEMBER 15, 2017	DESIGNED DMS	APPR. GJI	

DEREK M. SNYDER
REGISTERED NO. 11200008
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	REVISIONS	BY	APPR.
1				
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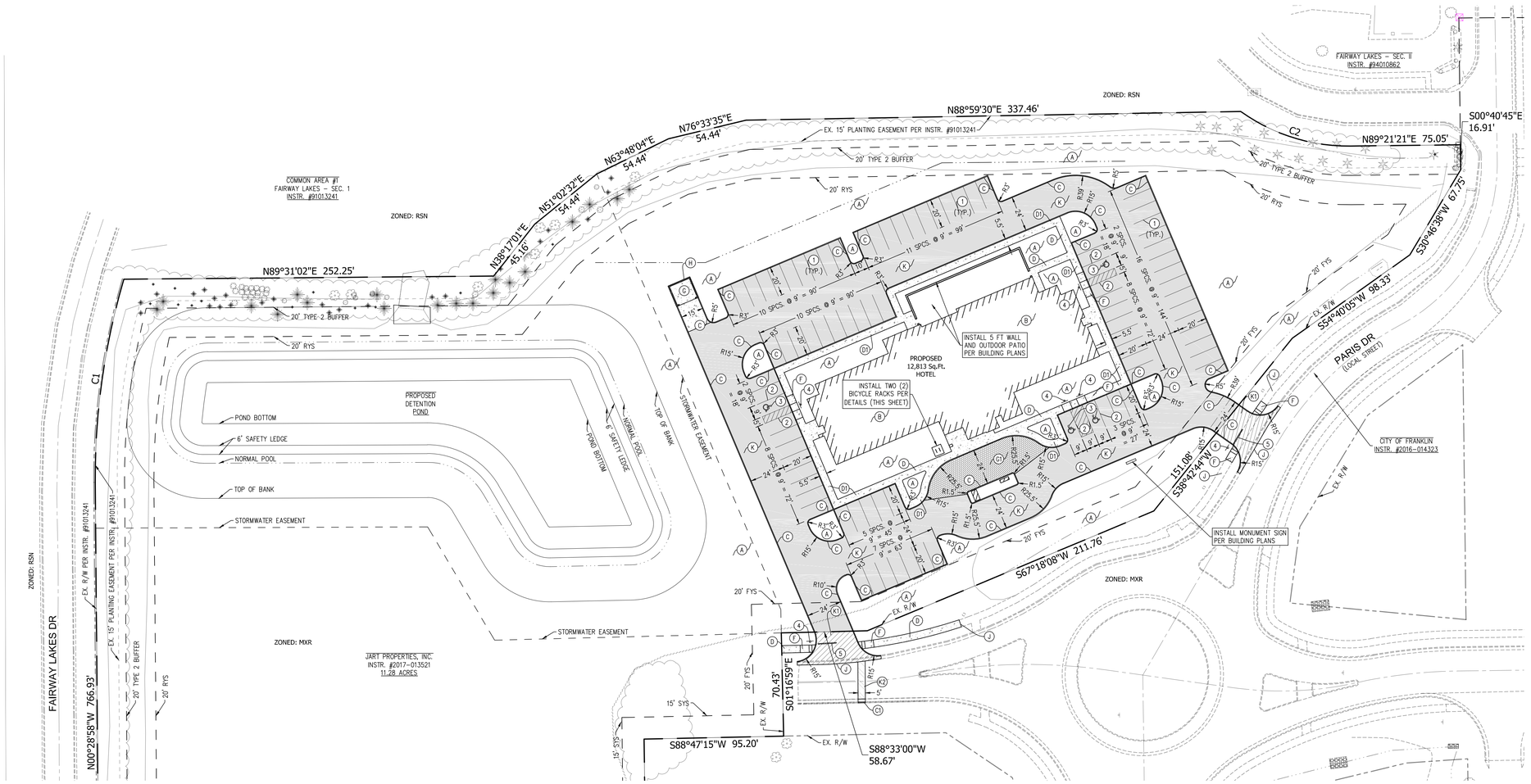


SITE DIMENSION LEGEND

- (A) MULCH SEEDING/LANDSCAPE AREAS
- (B) STRUCTURE FOUNDATION – PER BUILDING PLANS
- (C) STRAIGHT CONCRETE CURB (SEE DETAIL–SHEET 800)
- (C1) CONCRETE CURB AND GUTTER (SEE DETAIL–SHEET 900)
- (D) 4" CONCRETE SIDEWALK (SEE DETAIL–SHEET 800)
- (D1) MONOLITHIC CONCRETE CURB AND SIDEWALK (SEE DETAIL–SHEET 900)
- (F) HANDICAP RAMP (SEE DETAIL–SHEET 800)
- (G) TYPICAL CONCRETE PAVEMENT SECTION
  6" P.C.C.P. ON
  6" COMPACTED AGGREGATE #53 ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 800)
- (G1) TYPICAL STAMPED CONCRETE PAVEMENT SECTION
  6" STAMPED P.C.C.P. ON
  6" COMPACTED AGGREGATE #53 ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 800
  & SEE BUILDING PLANS FOR STAMP PATTERN)
- (H) TRASH ENCLOSURE (PER BUILDING PLANS)
- (J) SAWCUT
- (K) TYPICAL ASPHALT PAVEMENT SECTION
  1" HMA SURFACE 9.5mm, ON
  4" HMA INTERMEDIATE 19.0mm, ON
  8" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 800)
- (K1) TYPICAL HEAVY DUTY ASPHALT PAVEMENT SECTION
  1.5" HMA SURFACE 9.5mm, ON
  2.5" HMA INTERMEDIATE 19.0mm, ON
  4" HMA BASE 25.0mm, ON
  8" COMPACTED AGGREGATE #53, ON
  COMPACTED SUBGRADE (SEE DETAIL–SHEET 800)
- (K2) TYPICAL ASPHALT PAVEMENT PATCH SECTION
  1.5" HMA SURFACE 9.5mm, ON
  2.5" HMA INTERMEDIATE 19.0mm, ON
  4" HMA BASE 25.0mm, ON
  3" COMPACTED AGGREGATE #53, ON
  REMOVABLE FLOWABLE FILL (SEE DETAIL–SHEET 800)
- (1) LINE, PAINTED, SOLID WHITE, 4"
- (2) LINE, PAINTED, SOLID BLUE, 4"
- (3) HANDICAP SYMBOL, PAINTED, SOLID BLUE, 4"
- (4) SIGNAGE (SEE DETAIL THIS SHEET)
- (5) STOP BAR, PAINTED, SOLID WHITE, 24"

SITE DIMENSION NOTES

1. STREET SIGNAGE AND LIGHTING SHALL CONFORM TO CITY OF FRANKLIN STANDARDS. CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR ARCHITECT FOR LIGHT STYLES AND LAYOUT.
2. CONTRACTOR SHALL NOTIFY ENGINEER, IF PROOF ROLL OF SUBGRADE FAILS, TO DETERMINE IF LIME STABILIZATION OF SUBGRADE IS NECESSARY.
4. CONTRACTOR SHALL PLACE 12" OF CLAY CAP WITHIN THE POND IF SANDY SOILS ARE ENCOUNTERED.
5. ALL RADII DIMENSIONS ARE TO THE FACE OF PROPOSED CURB.
6. SIGNAGE SHALL INCLUDE ALL NECESSARY HARDWARE AND FITTINGS, INCLUDING 10 FT. OF 11 GAUGE FLANGED CHANNEL SIGN POST.
7. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL SIGNAGE. VERIFY CONFLICTS WITH OWNER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
9. CONTRACTOR SHALL VERIFY ALL NECESSARY REQUIREMENTS FOR TRASH ENCLOSURE WITH OWNER AND/OR ARCHITECT.
10. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANY AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, GAS, AND TELEPHONE CONNECTION SERVICE POINTS.
11. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

PROPOSED LEGEND

- PROPERTY LINE
- EASEMENT LINE
- PE — ELECTRIC LINE
- PG — GAS LINE
- FVS — WATER SERVICE LINE
- FIRE — FIRE SERVICE LINE
- E — ELECTRIC BOX
- BICYCLE RACK
- W.V. — WATER VAULT
- 11.25° BEND
- 22.5° BEND
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- IRR VALVE
- WATER TEE
- TAPPING SLEEVE
- CAP
- SIGN

Curve Table				
Curve #	Length	Radius	Chord Direction	Chord Length
C1	140.52'	474.00'	N08°00'36"E	140.01'
C2	79.74'	126.00'	S72°30'47"E	78.42'

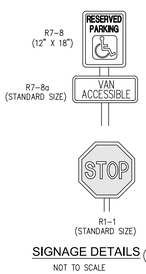
NOTE:
NO EARTHWORK DISTURBING ACTIVITY MAY COMMENCE UNTIL A STORM WATER MANAGEMENT PERMIT IS OBTAINED.

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

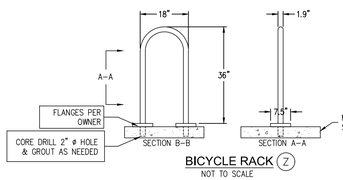
40 0 40 80
SCALE: 1" = 40'

PARKING ANALYSIS

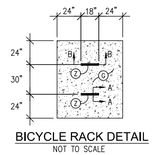
HOTEL USE		
TOTAL SLEEPING UNITS	=	81 ROOMS
REQUIRED RATIO	=	1 SPC/ROOM
TOTAL EMPLOYEES	=	5 EMPLOYEES
REQUIRED RATIO	=	1 SPC/EMPLOYEES
TOTAL REQUIRED SPACES	=	86 SPACES
STANDARD PARKING SPACES	=	82 SPACES
HANDICAP ACCESSIBLE SPACES	=	4 SPACES
TOTAL PROPOSED PARKING SPACES	=	86 SPACES



SIGNAGE DETAILS (4)
NOT TO SCALE



BICYCLE RACK (2)
NOT TO SCALE



BICYCLE RACK DETAIL
NOT TO SCALE

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DATE/USER : 9/15/2017 8:54 AM / Dsnyder

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

SHEET 300

SITE DIMENTION PLAN

MARRIOTT FAIRFIELD INN & SUITES

JOB No.	.	DRAWN	KLF / JMC	CHECKED	TEN	APPR.	CJI
DATE	SEPTEMBER 15, 2017	DESIGNED	DMS				

DEREK M. SNYDER
REGISTERED
NO. 11200008
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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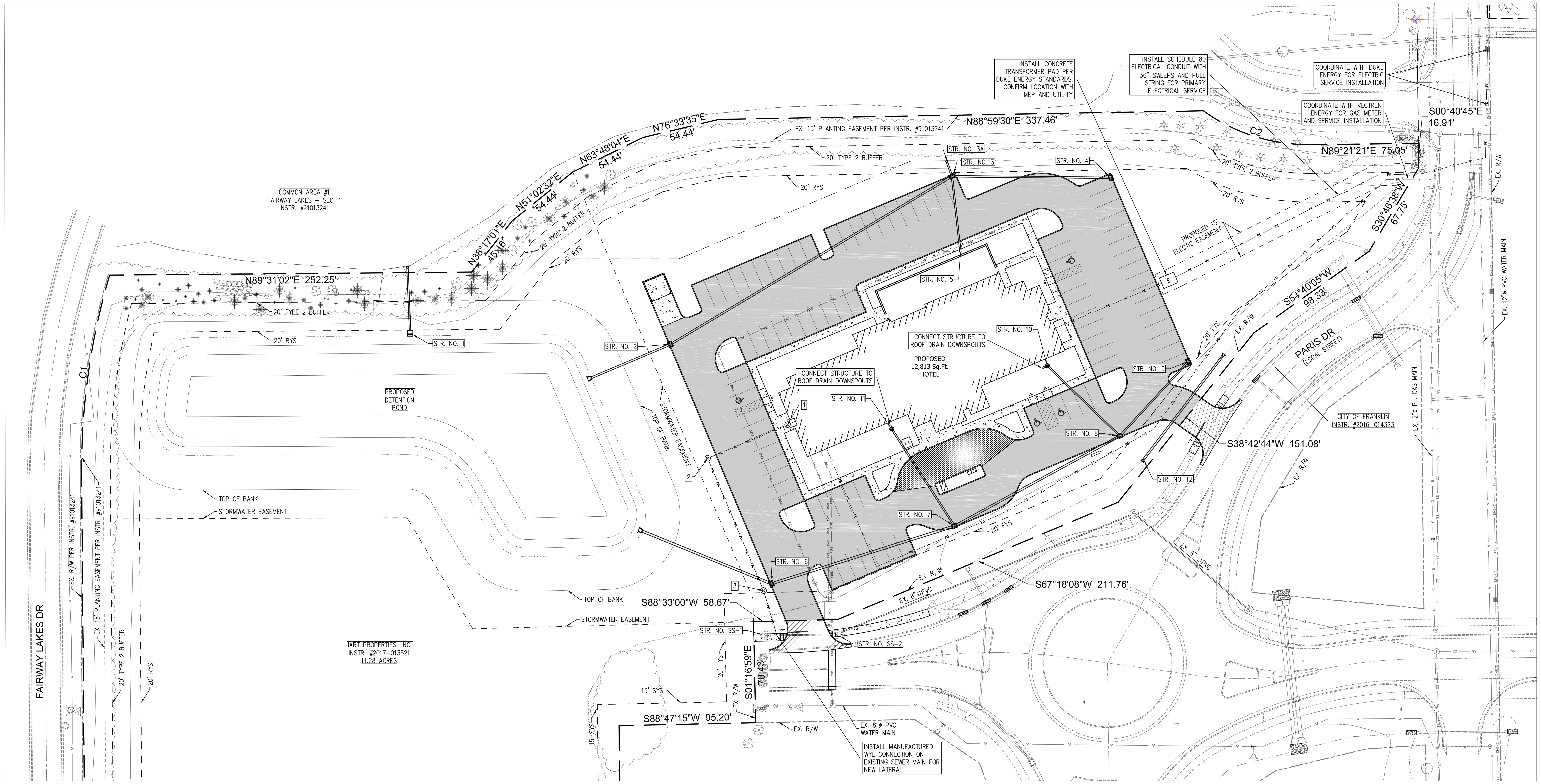
SHEET 300



SANITARY STRUCTURE DATA TABLE

STR. DATA	STR. DATA
STR. NO. SS-1 EXISTING SANITARY MANHOLE. ADJUST CASTING TO GRADE EX. RIM = 747.93 PROP. RIM = 748.81 INV. OUT (8"~E) = 739.31	STR. NO. SS-2 EXISTING SANITARY MANHOLE. ADJUST CASTING TO GRADE EX. RIM = 747.70 PROP. RIM = 747.56 INV. IN (8"~W) = 738.93 INV. OUT (8"~E) = 738.90

SANITARY LATERAL DATA TABLE

INSTALL CLEANOUT AND 6"Ø PVC (SDR-35) SANITARY LATERAL SLOPE SHALL BE 1.04%. CONTRACTOR SHALL CONFIRM CLEANOUT LOCATIONS AND LATERAL INVERT WITH BUILDING PLANS.

RUN	CLEANOUT TYPE	LENGTH	SLOPE	U.S. INVERT
1	TYPE	60'	3.00%	745.10
2	TYPE	100'	3.00%	743.30
3	TYPE	33'	3.00%	740.30

STORM SEWER STRUCTURE TABLE

STR. DATA
STR. NO. 1 INSTALL MODIFIED INLET TYPE 'E' FOR OUTLET CONTROL STRUCTURE WITH NEENAH CASTING R-4215-C OR AN APPROVED EQUAL WITH ONE (1) PIPE END SECTION AND 45 LFT OF 12"Ø RCP @ 0.55% RIM=745.25 INV OUT (12"~N)=742.25
STR. NO. 2 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 60 LFT OF 15"Ø RCP @ 0.42% RIM=746.50 INV IN (15"~NE)=742.50 INV OUT (15"~SW)=742.50
STR. NO. 3 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 228 LFT OF 15"Ø RCP @ 0.30% RIM=746.50 INV IN (12"~E)=743.44 INV IN (12"~S)=743.44 INV IN (12"~N)=743.44 INV OUT (15"~SW)=743.19
STR. NO. 3A INSTALL ONE (1) PIPE END SECTION AND 11 LFT OF 12"Ø RCP @ 0.59% INV OUT (12"~S)=743.51

STORM SEWER STRUCTURE TABLE

STR. DATA
STR. NO. 4 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 111 LFT OF 12"Ø RCP @ 0.30% RIM=746.75 INV OUT (12"~W)=743.77
STR. NO. 5 CONNECT PIPE TO PATIO YARD DRAIN (SEE BUILDING PLAN FOR EXACT LOCATION) 53 LFT OF 12"Ø HDPE @ 1.05% INV OUT (12"~N)=744.00
STR. NO. 6 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 97 LFT OF 18"Ø RCP @ 0.26% RIM=746.50 INV IN (18"~E)=742.50 INV OUT (18"~W)=742.50
STR. NO. 7 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 134 LFT OF 18"Ø RCP @ 0.26% RIM=746.35 INV IN (15"~NE)=743.10 INV IN (12"~NW)=743.35 INV OUT (18"~W)=742.85

STORM SEWER STRUCTURE TABLE

STR. DATA
STR. NO. 8 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 131 LFT OF 15"Ø RCP @ 0.20% RIM=746.18 INV IN (12"~NE)=743.61 INV IN (12"~NW)=743.61 INV OUT (15"~SW)=743.36
STR. NO. 9 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 71 LFT OF 12"Ø RCP @ 0.30% RIM=746.50 INV OUT (12"~SW)=743.82
STR. NO. 10 INSTALL 12" NYLOPLAST DRAIN BASIN WITH SOLID COVER AND 70 LFT OF 12"Ø HDPE @ 0.56% RIM=748.25 INV IN (12"~W)=744.70 INV OUT (12"~SE)=744.00
STR. NO. 11 INSTALL 12" NYLOPLAST DRAIN BASIN WITH SOLID COVER AND 80 LFT OF 12"Ø HDPE @ 0.50% RIM=748.25 INV IN (12"~NW)=744.66 INV OUT (12"~SE)=743.75

CULVERT DATA TABLE

STR. DATA
STR. NO. 12 INSTALL TWO (2) PIPE END SECTIONS AND 91 LFT OF 15"Ø RCP @ 0.43% U.S. EL=741.80 D.S. EL.=741.41

PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- FIRE SERVICE LINE
- WATER SERVICE LINE
- GAS LINE
- STORM INLETS
- WATER TEE
- 45° BEND
- 22.5° BEND
- TAPPING SLEEVE
- WATER VALVE
- FIRE HYDRANT
- WATER VAULT
- STORTZ FDC
- ELECTRIC TRANSFORMER
- GENERATOR
- SIGN

UTILITIES NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
2. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
3. CONTRACTOR SHALL CONFIRM ELECTRICAL TRANSFORMER LOCATION, DIMENSIONS, AND SPECIFICATIONS, AS WELL AS, ELECTRICAL CONDUIT DIAMETER WITH MEP PLANS AND DUKE ENERGY. CONTRACTOR SHALL COORDINATE WITH DUKE ENERGY FOR NECESSARY ELECTRIC SERVICE REQUIREMENTS.
4. CONTRACTOR SHALL CONFIRM ELECTRICAL REQUIREMENTS FOR PARKING LOT LIGHTS WITH MEP AND ELECTRICIAN.
5. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.
6. CONTRACTOR SHALL CONFIRM DOWNSPOUT LOCATIONS WITH BUILDING PLANS.
7. CONTRACTOR SHALL CONFIRM DEPTH AND LOCATION OF SANITARY LATERAL EXITING THE BUILDING WITH MEP AND BUILDING PLANS.
8. CONTRACTOR SHALL MAINTAIN 10 FOOT MINIMUM HORIZONTAL SEPARATION BETWEEN PARALLEL WATER AND SEWER LINES. CONTRACTOR SHALL MAINTAIN 2 FOOT MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER LINE CROSSINGS WITH THE WATER LINES LOCATED ABOVE THE SEWER LINES.
9. ALL FIELD TILES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED/CONNECTED TO NEW DRAINAGE FACILITIES.
10. CONTRACTOR SHALL COORDINATE WITH THE CITY OF FRANKLIN FOR AN INSPECTION OF THE SANITARY SEWER LATERAL FORCE MAIN CONNECTION TO THE EXISTING SEWER.

CROSSROAD ENGINEERS, PC — Transportation & Development Consultants

UTILITY PLAN

MARRIOTT FAIRFIELD INN & SUITES

DATE SEPTEMBER 15, 2017 — DRAWN KLF/LMC — CHECKED TEN — DESIGNED DMS — APPR. GJI

DEREK M. SNYDER — REGISTERED NO. 11200008 — STATE OF INDIANA — PROFESSIONAL ENGINEER

REVISIONS: NO. | DATE | BY | APPR.

SHEET 400

DIRECTORY PATH: R:\Active\Hotel Development Services, LLC\Design\CAD\Plans
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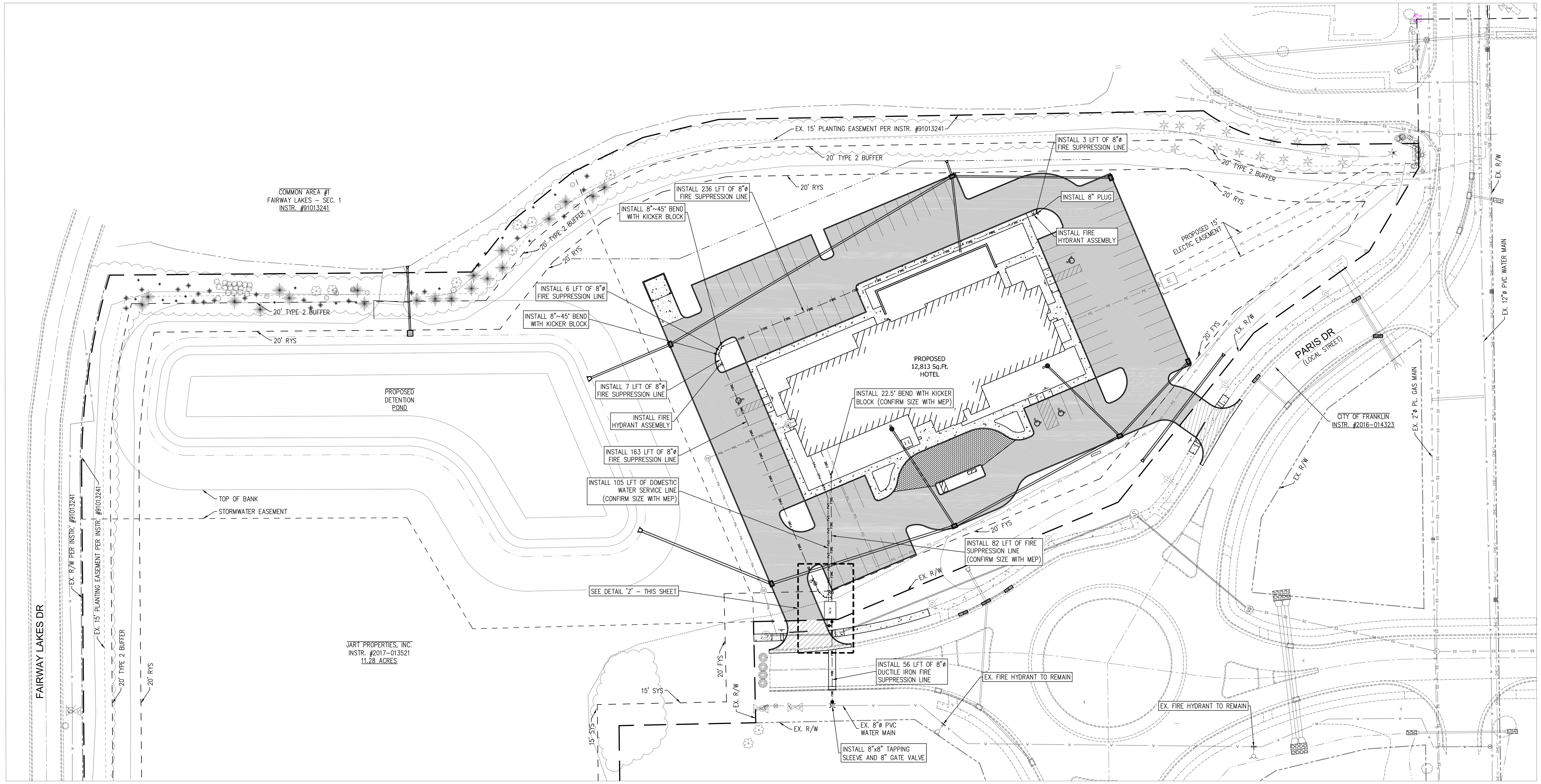
FIRE PROTECTION PLAN

MARRIOTT FAIRFIELD INN & SUITES



SCALE: 1" = 40'

PROPOSED LEGEND

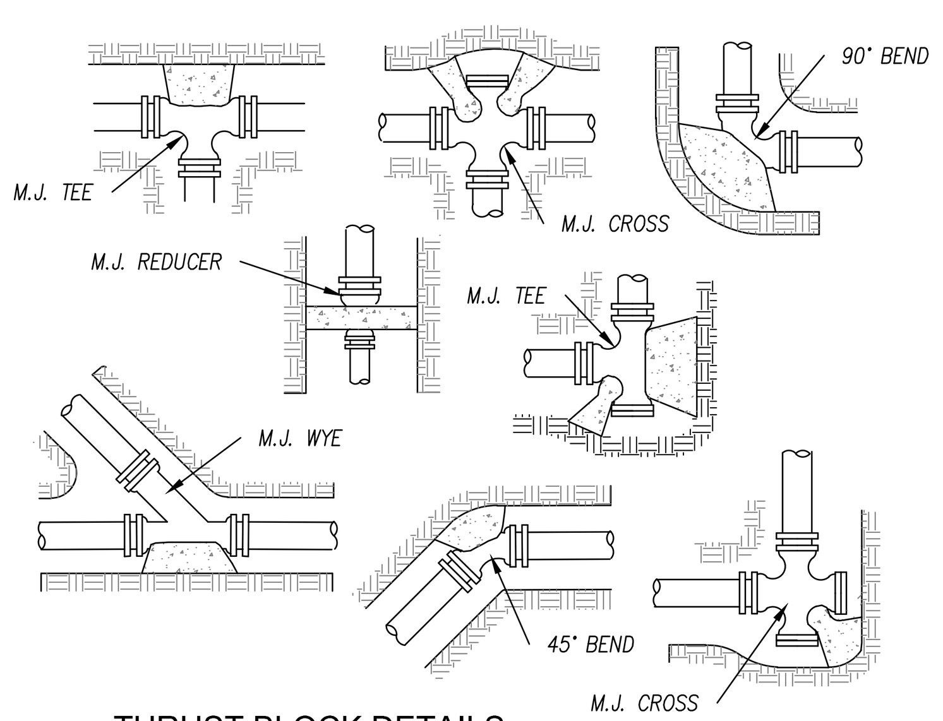
- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM INLETS
- WATER TEE
- 45° BEND
- 11.25° BEND
- TAPPING SLEEVE
- WATER VALVE
- FIRE HYDRANT
- WATER VAULT
- STORTZ FDC
- ELECTRIC TRANSFORMER
- GENERATOR
- GREASE TRAP
- LIGHT POLE
- YARD LIGHT
- SIGN

THRUST BLOCK SCHEDULE

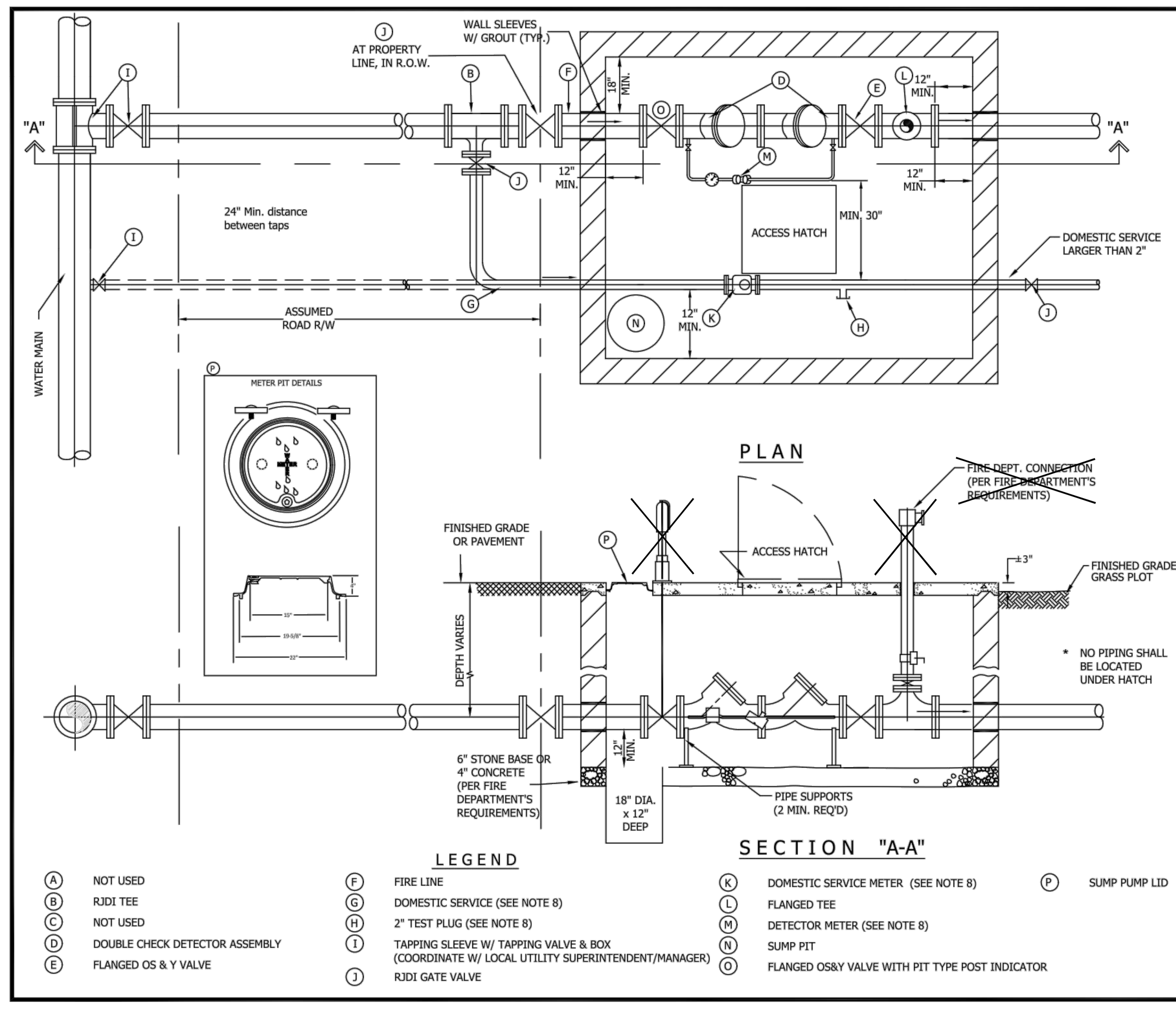
PIPE SIZE	ELBOWS 90°	45°	22½°	11¼°	TEE	VALVES & HYDRANT	REDUCER
16"	37.8	19.1	11.2	3.0	28.6	21.4	16 X 14 3.6
14"	29.8	14.9	8.9	2.3	23.2	16.4	14 X 12 3.1
12"	21.1	8.6	6.6	1.7	16.6	10.5	12 X 10 2.6
10"	11.5	5.9	3.6	1.2	9.4	7.8	10 X 8 2.1
8"	7.2	3.7	2.1	1.2	5.4	4.6	8 X 6 1.6
6"	3.2	3.0	1.3	1.2	3.5	2.6	6 X 4 1.6
4" & UNDER	1.3	3.0	1.3	1.2	3.5	1.3	4 X 3 1.6

NOTE: CLASS 150 PIPE, TEST PRESSURE P.S.I.; SOIL BEARING: 2000 P.S.I.
THRUST BLOCK CONTACT AREA OF UNDISTURBED EARTH BANK IN SQUARE FEET.

CONCRETE THRUST BLOCKS TO BE 2500 P.S.I. CONCRETE, POURED IN PLACE WITH SLUMP BETWEEN 1" MINIMUM AND 4" MAXIMUM



THRUST BLOCK DETAILS
NOT TO SCALE

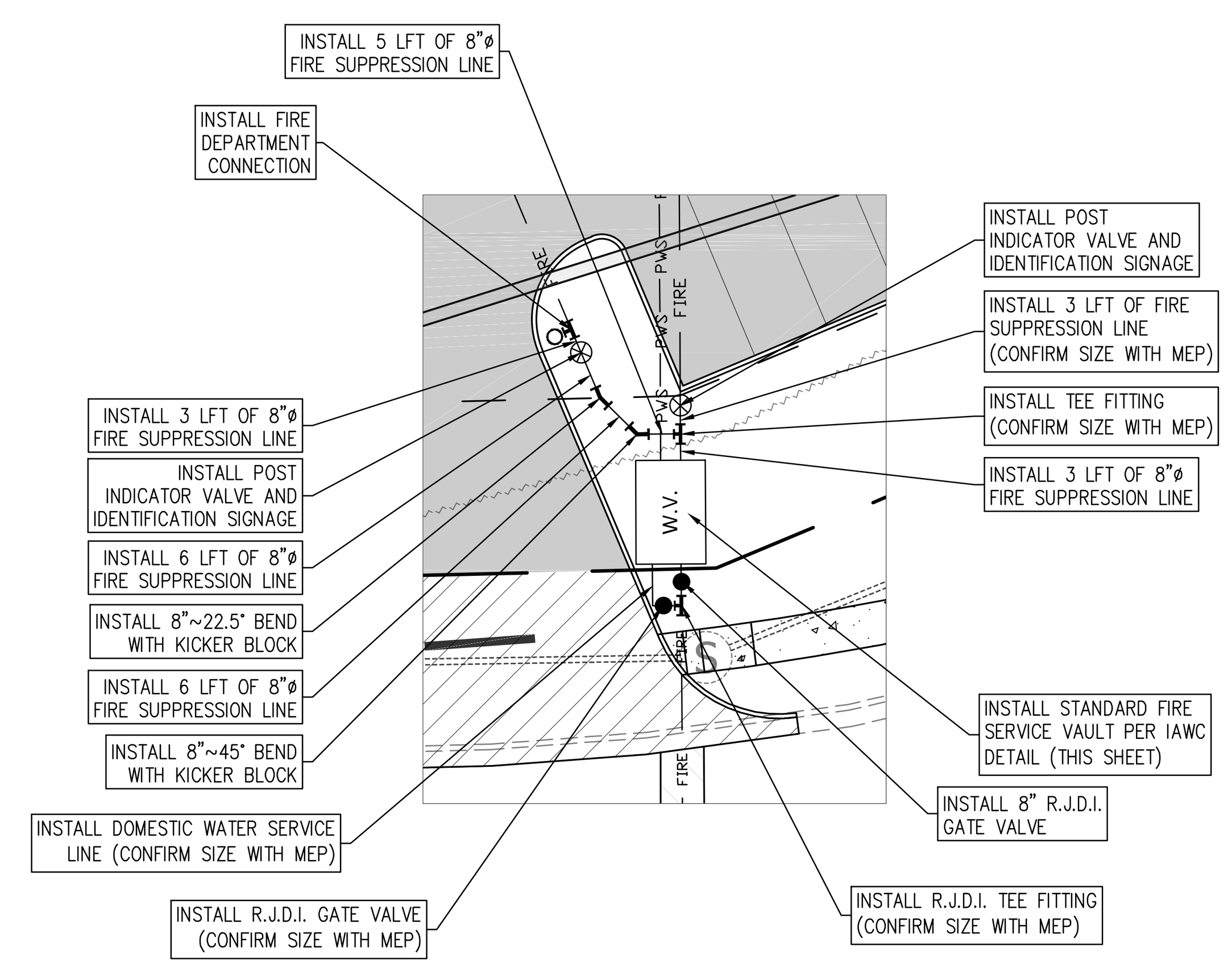


NOTES:

1. CUSTOMER SHALL FURNISH & INSTALL VAULT, INCLUDING ALL APPERTENCES EXCEPT AS NOTED BELOW.
2. VAULT CONSTRUCTION MATERIALS SHALL BE 8"x8"x16" CMU, OR PRECAST, OR CAST-IN-PLACE CONCRETE AT CUSTOMER'S SELECTION.
3. INSIDE DIMENSIONS PER DRAWING NOTES. VAULT TO BE SET LENGTHWISE WITH SERVICE.
4. TOP OF VAULT TO BE CONCRETE, AT LEAST 4" THICK WITH REINFORCING SUITABLE FOR ANTICIPATED LOADING. WHEN VAULT IS CONSTRUCTED IN PAVED AREAS, PAVEMENT IS TO BE LEVEL WITH TOP OF VAULT, AND THE TOP REINFORCED AS REQUIRED TO SUPPORT TRAFFIC LOADS (i.e. H-20 WHEEL LOADS). WHEN VAULT IS CONSTRUCTED IN GRASS PLOT, TOP OF VAULT SHALL BE 3" ABOVE FINISHED GRADE.
5. BOTTOM OF VAULT TO BE EITHER A MINIMUM OF 6" OF CRUSHED STONE OR 4" CONCRETE PER FIRE DEPARTMENT'S REQUIREMENT. MINIMUM CLEARANCE OF 12" BELOW BOTTOM OF FIRE SERVICE AND DOMESTIC SERVICE LINES IS REQUIRED.
6. DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE A MODEL APPROVED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, WITH FLANGED OS&Y GATE VALVE ON INLET & OUTLET SIDES. DETECTOR METER IS FURNISHED BY UTILITY AND INSTALLED BY CUSTOMER. STAINLESS STEEL BOLTS ARE REQUIRED.
7. ACCESS HATCH IN TOP OF VAULT SHALL BE 30"x30" ALUMINUM BILCO J-2AL, BILCO PCM-2, HALLIDAY W1S3030 OR EQUAL. ACCESS HATCH SHALL HAVE SAME OR GREATER LOADING CAPACITY AS VAULT LID. PIPE HATCH FRAME DRAIN TO VAULT FLOOR OR SUMP, AS APPLICABLE. IF SUMP PUMP INSTALLED IN THE VAULT, ELECTRICAL DISCONNECT IS REQUIRED ON TOP OF VAULT, INSTALLED ABOVE GRADE, PER LOCAL ELECTRICAL CODE.
8. A COMBINATION VAULT CAN BE USED ONLY IF METER IS LARGER THAN 2".
   a. METERS TO BE LOCATED A MAXIMUM 18" FROM HINGE SIDE OF HATCH.
   b. A 2" TEST PLUG SHALL BE INSTALLED AT LEAST 2 PIPE DIAMETERS DOWNSTREAM OF 3" OR LARGER METERS.
9. AS DIRECTED BY LOCAL OPERATIONS, ADDITIONAL PIPE SUPPORTS MAY BE REQUIRED.
10. THE LID AND RING THAT WILL BE REQUIRED IS FORD A53-TT OR FORD A53-T. THE A53-TT WILL BE USED FOR ALL VAULTS WITH THE DOMESTIC METER INSIDE. THE A53-T WITH BE USED FOR ALL VAULTS WITH THE DCDA ONLY LOCATED INSIDE THE VAULT.

INDIANA AMERICAN WATER

SCALE: NO SCALE	LONG SIDE VAULT DETAIL
REVISIONS	STANDARD FOR COMBINED FIRE SERVICE & METER VAULT FOR 3" AND LARGER SINGLE METER CONFIGURATION
R.K.B. 2/2017	1 of 1



DETAIL 'Z' - FIRE SERVICE VAULT
SCALE: 1"=20'

NOTES:

1. CONTRACTOR SHALL CONFIRM DOMESTIC WATER SERVICE AND FIRE PROTECTION LINE DIAMETERS WITH THE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL FURNISH AND INSTALL VAULT PER INDIANA AMERICAN WATER COMPANY STANDARDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT FOR REVIEW SHOWING ALL COMPONENTS.
3. CONTRACTOR SHALL CONFIRM DOMESTIC WATER METER REQUIREMENTS, INCLUDING LOCATION AND SIZE, WITH THE ARCHITECT AND INDIANA AMERICAN WATER COMPANY.
4. CONTRACTOR SHALL UTILIZE THE VAULT DETAIL PROVIDED AS A GUIDE; HOWEVER, THE SPECIFIC VAULT DIMENSIONS, COMPONENTS, BACKFLOW PREVENTION, MATERIALS, ETC. SHALL BE DETERMINED THROUGH COORDINATION WITH THE SUPPLIER, ARCHITECT, MEP, AND INDIANA AMERICAN WATER COMPANY.
5. PER COORDINATION WITH INDIANA AMERICAN WATER COMPANY AND THE FRANKLIN FIRE DEPARTMENT, POST INDICATOR VALVE AND FIRE DEPARTMENT CONNECTION SHALL BE LOCATED OUTSIDE THE VAULT.

FIRE PROTECTION NOTES

1. FIRE SUPPRESSION LINE, DOMESTIC WATER LINE, AND WATER METER INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE INDIANA AMERICAN WATER UTILITY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH INDIANA AMERICAN WATER FOR CONNECTION AND TESTING PROCEDURES AND REQUIREMENTS. ALL FIRE SERVICE LINES AND DOMESTIC WATER LINES SHALL BE INSTALLED WITH A MINIMUM 54 INCHES OF COVER FROM FINISH GRADE. SERVICE LINES SHALL BE DEFLECTED AS REQUIRED TO MAINTAIN MINIMUM SEPARATION REQUIREMENTS AT ALL UTILITY CROSSINGS.
2. CONTRACTOR SHALL CONFIRM FIRE SUPPRESSION LINE, DOMESTIC WATER SERVICE LINE, AND WATER METER SIZE WITH MEP PLANS PRIOR TO INSTALLATION OR ORDERING MATERIALS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND PROVIDING ALL NECESSARY FLAGMAN, BARRELS, SIGNAGE, ETC. DURING CONSTRUCTION. ALL APPLICABLE M.U.T.C.D. STANDARDS SHALL GOVERN THIS WORK.
4. CONTRACTOR SHALL COORDINATE WITH APPLICABLE UTILITY COMPANIES AND BUILDING PLANS FOR WATER, CABLE, ELECTRIC, AND TELEPHONE CONNECTION SERVICE POINTS.
5. COORDINATE INSTALLATION OF FIRE HYDRANTS WITH INDIANA AMERICAN WATER AND THE CITY OF FRANKLIN FIRE DEPARTMENT. TYPE, MATERIAL, AND MANUFACTURER OF FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH FRANKLIN FIRE DEPARTMENT REQUIREMENTS. ALL PUBLIC FIRE HYDRANTS ARE TO BE YELLOW AND ALL PRIVATE FIRE HYDRANTS ARE TO BE RED WITH THE TOP CAP COLOR CODED TO SHOW WATER FLOW, AS FOLLOWS: 1500 gpm=BLUE, 1000-1499 gpm=GREEN, AND 500-999 gpm=ORANGE.
6. ALL HYDRANTS SHALL HAVE A STORZ CONNECTION.
7. ALL HYDRANTS WITHIN 300 FEET SHALL BE OPERATIONAL BEFORE ANY ABOVE GRADE CONSTRUCTION.
8. EXISTING UTILITY SIZE AND MATERIAL INFORMATION SHOWN ON THESE PLANS ARE PER THE BEST GRAPHICAL AND VISIBLE INFORMATION AVAILABLE. CONFLICTS MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL SIZING AND MATERIAL INFORMATION PROVIDED. IF ACTUAL CONDITIONS DIFFER FROM THAT INFORMATION SHOWN ON THE PLANS, THE CONTRACTOR SHALL, PRIOR TO THE INSTALLATION OF ANY PROPOSED INFRASTRUCTURE, NOTIFY THE DESIGN ENGINEER IMMEDIATELY.

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

CROSSROAD ENGINEERS, PC — Transportation & Development Consultants

JOB NO.	-	DRAWN	KLF/LMC	CHECKED	TEN
DATE	SEPTEMBER 15, 2017	DESIGNED	DMS	APPR.	GJI

DEREK M. SNYDER — REGISTERED NO. 11200008 — STATE OF INDIANA — PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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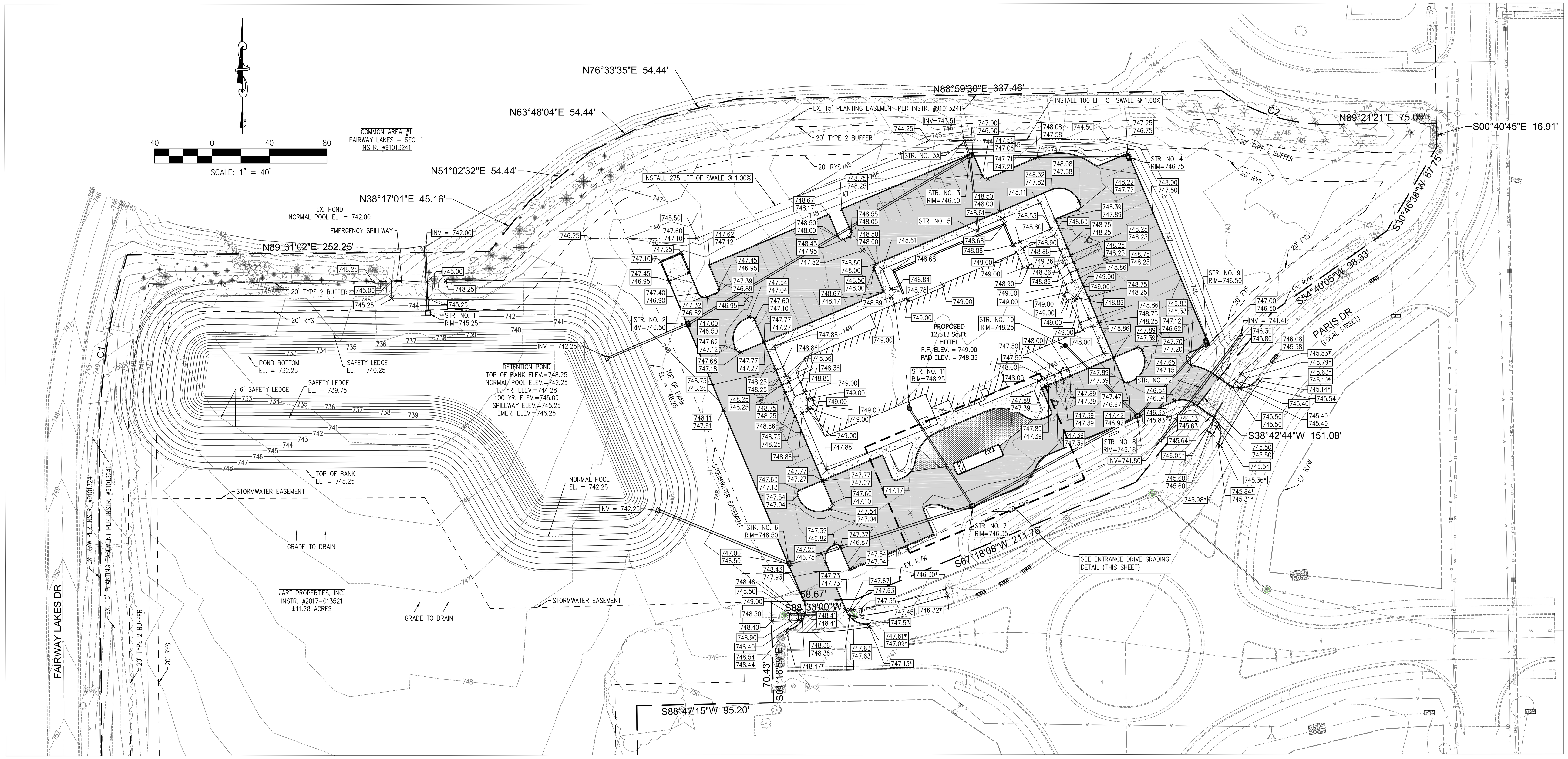
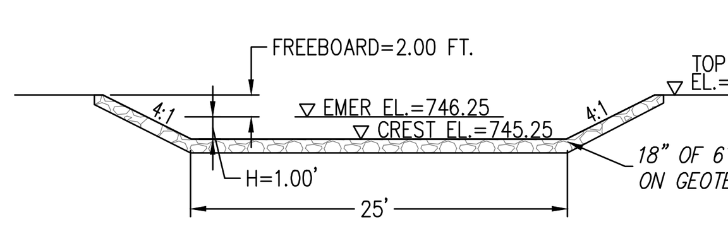


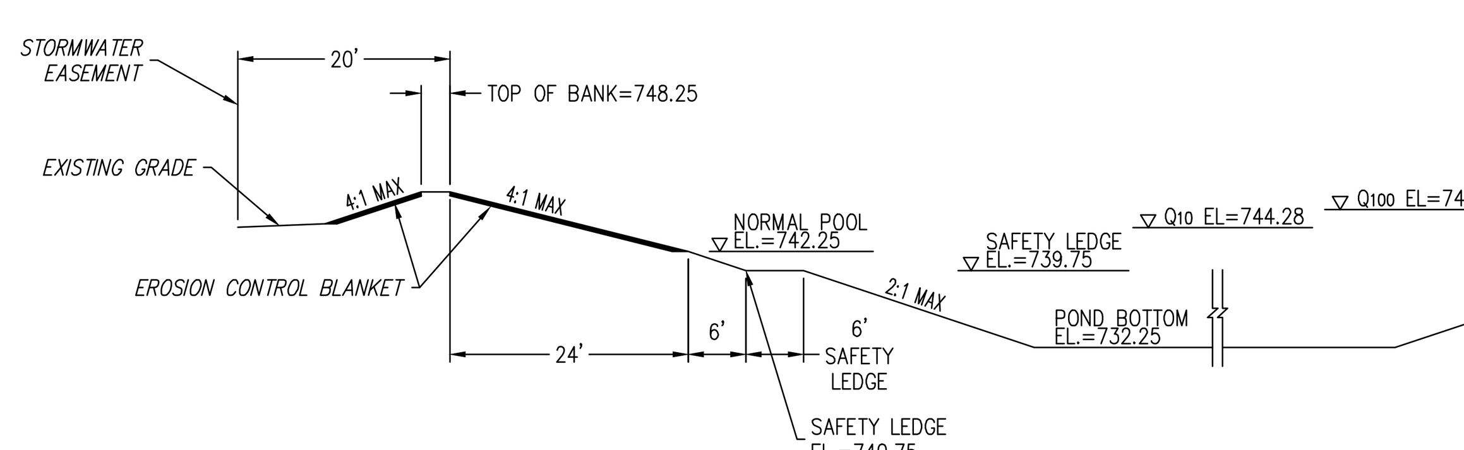
GRADING LEGEND

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



SPILLWAY DETAIL

NOT TO SCALE



TYPICAL DETENTION POND SECTION

NOT TO SCALE

BENCHMARK INFORMATION

ORIGINATING BENCHMARK

DESIGNATION –X 13
PID – KA0010
STATE/COUNTY – IN/MORGAN
USGS QUAD – MOORESVILLE EAST (1980)

VERT ORDER – FIRST CLASS II

DESCRIBED BY COAST AND GEODETIC SURVEY 1946
1.2 MI N FROM WAVERLY.
IN JOHNSON COUNTY, 1.2 MILES NORTH ALONG STATE HIGHWAY 37 FROM THE INTERSECTION OF STATE HIGHWAY 144 AT WAVERLY, MORGAN COUNTY, 26 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN LINE WITH THE WEST RIGHT–OF–WAY FENCE, 1.5 FEET SOUTH OF A WHITE WOODEN WITNESS POST, AND ABOUT 2 FEET HIGHER THAN THE HIGHWAY. A STANDARD DISK, STAMPED 686.370 X 13 1930 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 7 INCHES ABOVE GROUND.

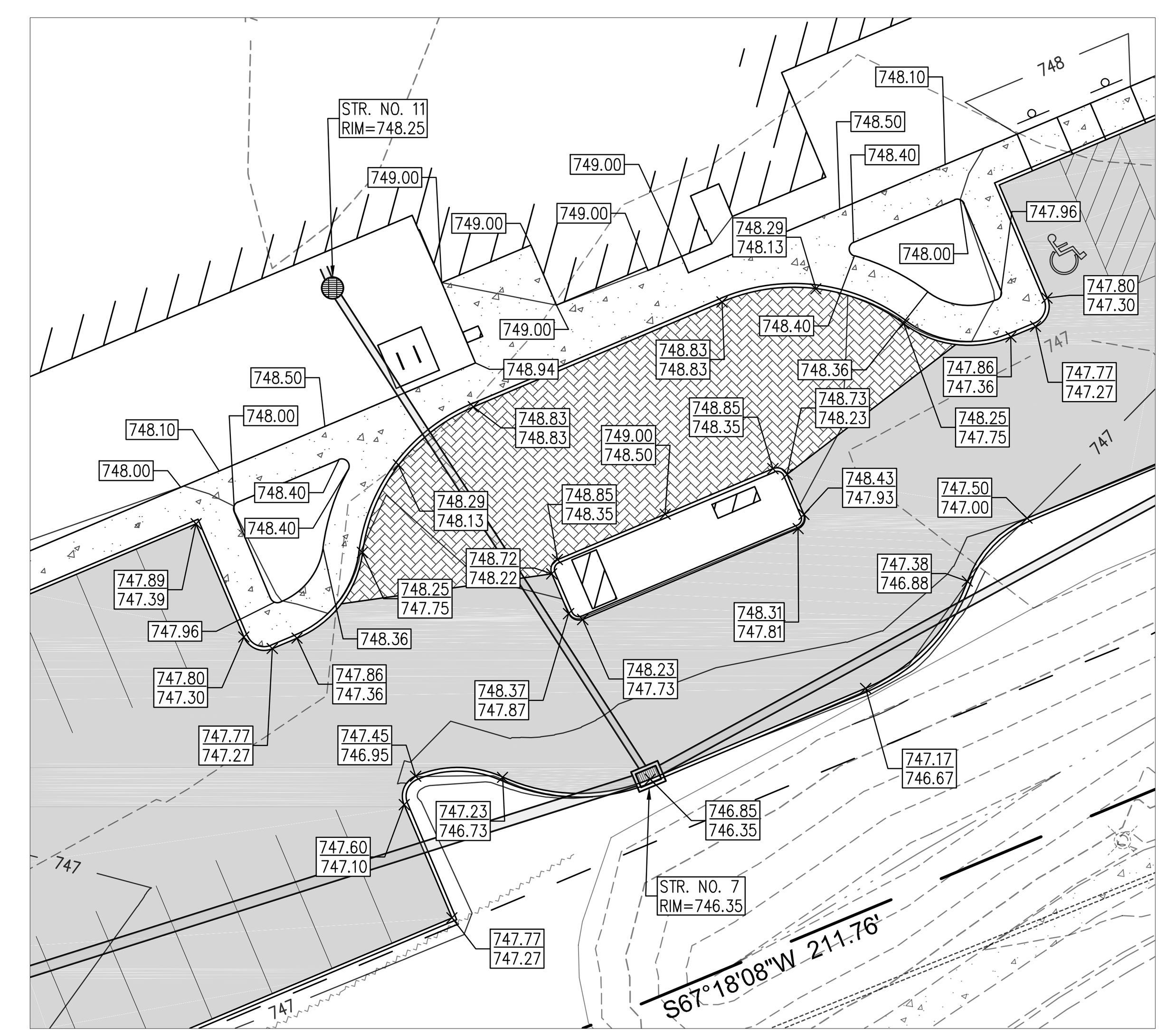
RECOVERY NOTE BY IN DEPT OF NAT RES 1985
NEW SESC– AT THE INTERSECTION OF THE NEW STATE ROAD 144 AND OLD STATE ROAD 37, IN THE SOUTHWEST QUARTER OF THE INTERSECTION, WITNESS POST IS GONE RIGHT–OF–WAY FENCE IS GONE, ALL OTHER INFORMATION APPEARS TO BE CORRECT.

ELEVATION = 685.94 (NAVD 88)

TBM#400
CUT 'X' ON S.E. ANCHOR BOLT OF BIG (FOR INTERSTATE) McDONALDS SIGN NW OF McDONALDS BUILDING. ELEV.=751.96

GRADING NOTES

1. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS IN FINAL GRADING OF SITE. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT TO DETERMINE PROPER FOUNDATION EXPOSURE FOR EACH BUILDING TYPE, HOWEVER, IN NO INSTANCE SHALL DRAINAGE TOWARDS THE BUILDING FOUNDATION BE ALLOWED.
2. CONTRACTOR SHALL NOT ALLOW DRAINAGE FROM PROJECT SITE TO DISCHARGE ONTO ADJACENT PROPERTIES IN FINAL GRADING OF SITE.
3. CONTRACTOR SHALL RE–USE SOIL EXCAVATED FROM POND (IF SUITABLE FOR USE AS FILL) TO RE–GRADE SITE DRAIN TO POND. CONTRACTOR SHALL MAINTAIN 2% MINIMUM SLOPES.



ENTRANCE DRIVE GRADING DETAIL

SCALE: 1" = 20'

GRADING PLAN

MARRIOTT FAIRFIELD INN & SUITES

JOB No.	-
DATE	SEPTEMBER 15, 2017
DRAWN	KLF/LMC
DESIGNED	DMS
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APPR.	GJI

DEREK M. SNYDER
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NO. 11200008
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PROFESSIONAL ENGINEER

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

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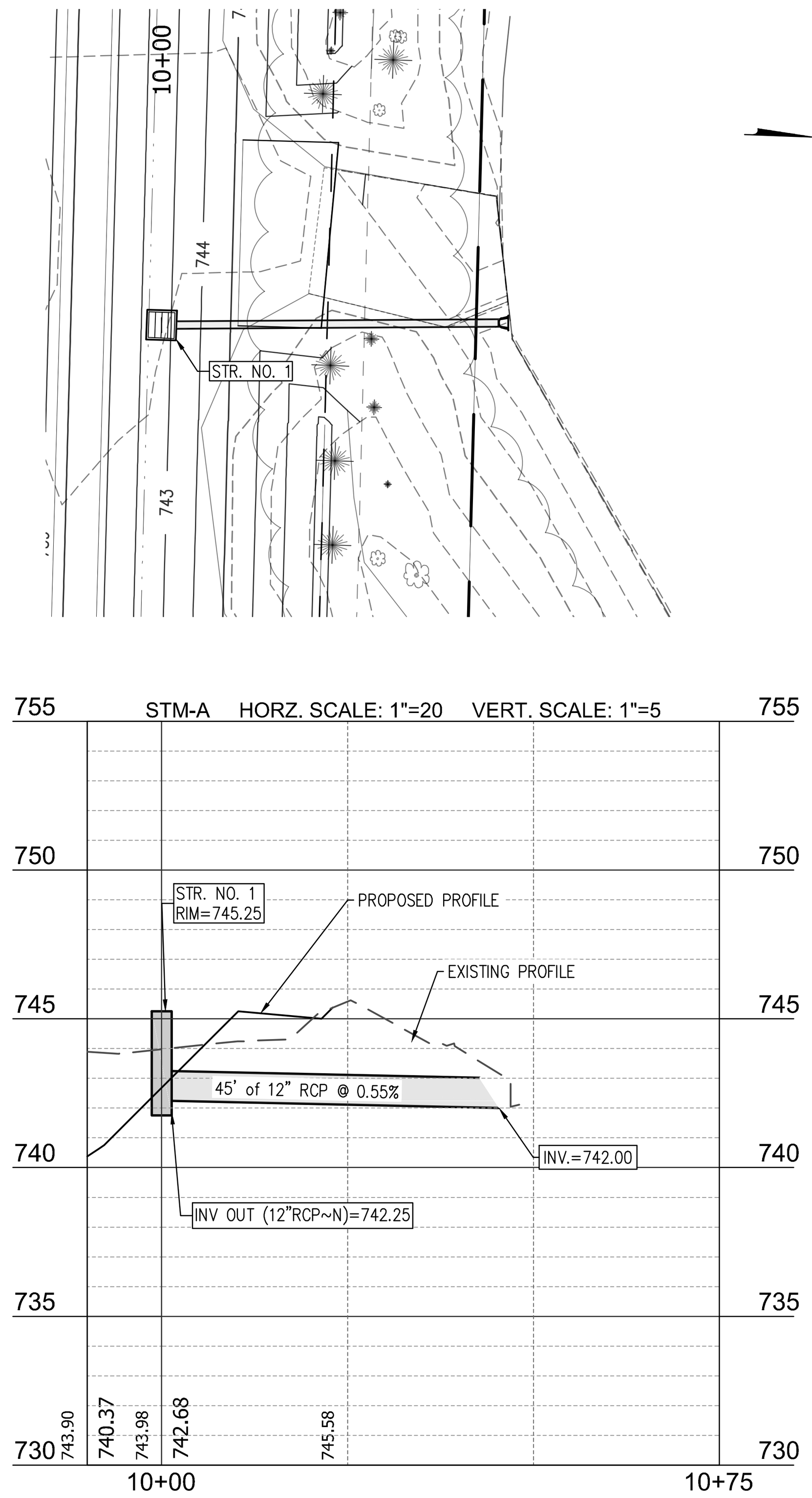
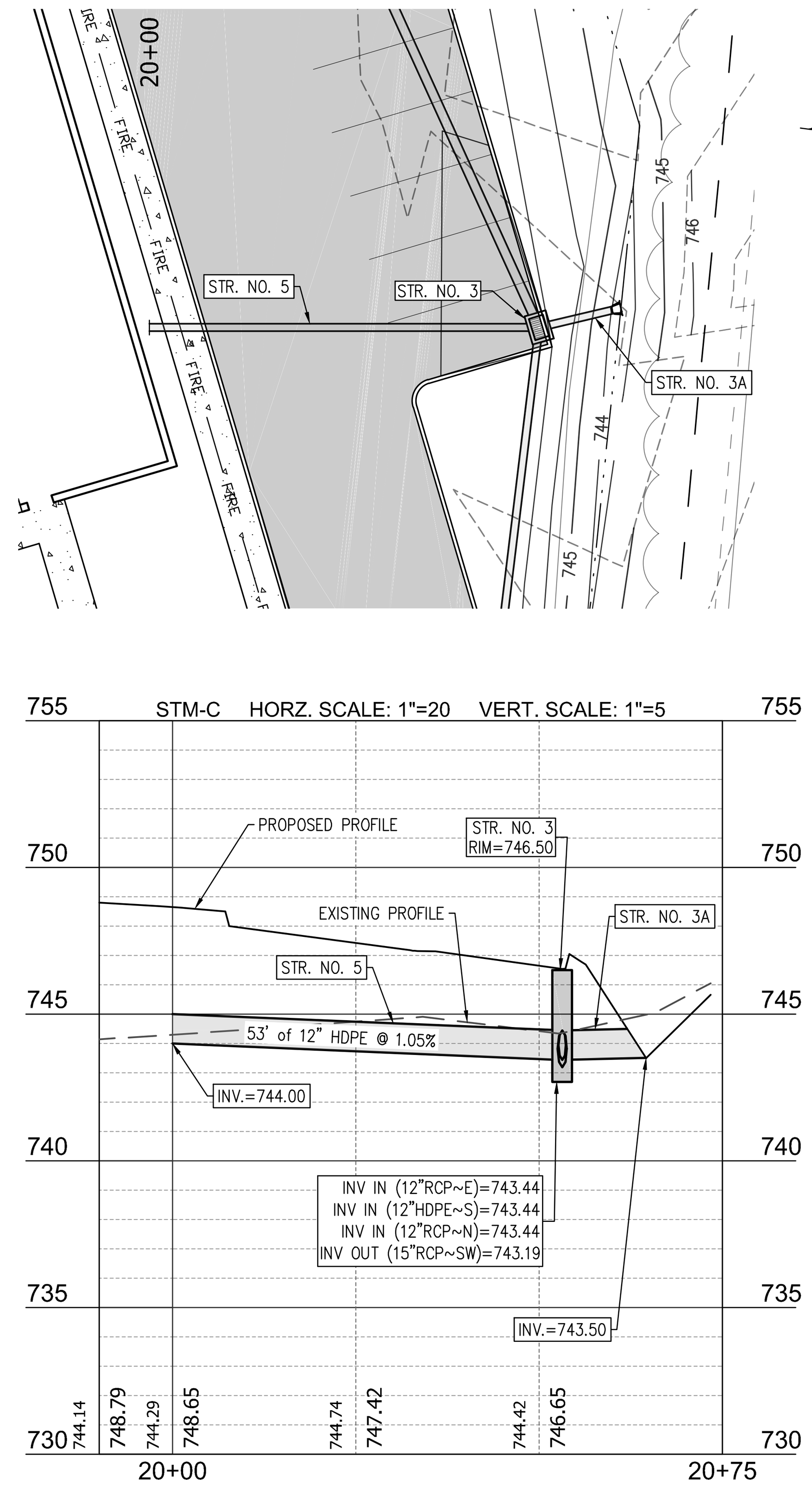
SHEET 500

DIRECTORY PATH : R:\Active\Hotel Development Services, LLC\Design\CAD\Plans
FILENAME : 500 GRADING PLAN.dwg
DATE/USER : 9/15/2017 9:26 AM / Kfigg



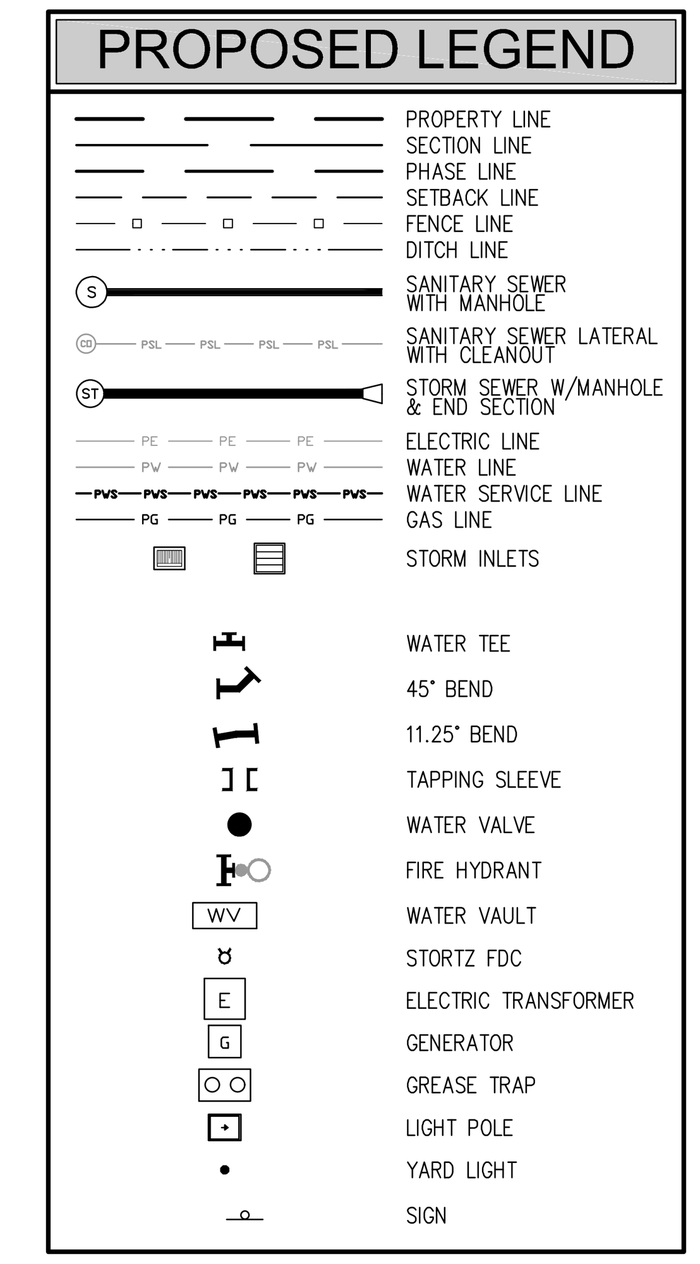


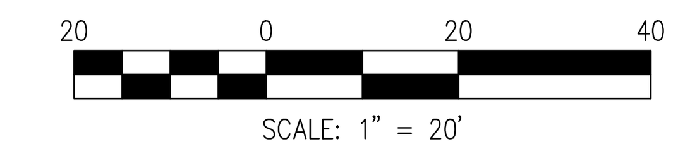
STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 1 INSTALL MODIFIED INLET TYPE 'E' FOR OUTLET CONTROL STRUCTURE WITH NEENAH CASTING R-4215-C OR AN APPROVED EQUAL WITH ONE (1) PIPE END SECTION AND 45 LFT OF 12"ø RCP @ 0.55% RIM=745.25 INV OUT (12"~N)=742.25
STR. NO. 2 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 60 LFT OF 15"ø RCP @ 0.42% RIM=746.50 INV IN (15"~NE)=742.50 INV OUT (15"~SW)=742.50
STR. NO. 3 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 228 LFT OF 15"ø RCP @ 0.30% RIM=746.50 INV IN (12"~E)=743.44 INV IN (12"~S)=743.44 INV IN (12"~N)=743.44 INV OUT (15"~SW)=743.19
STR. NO. 3A INSTALL ONE (1) PIPE END SECTION AND 11 LFT OF 12"ø RCP @ 0.59% INV OUT (12"~S)=743.51

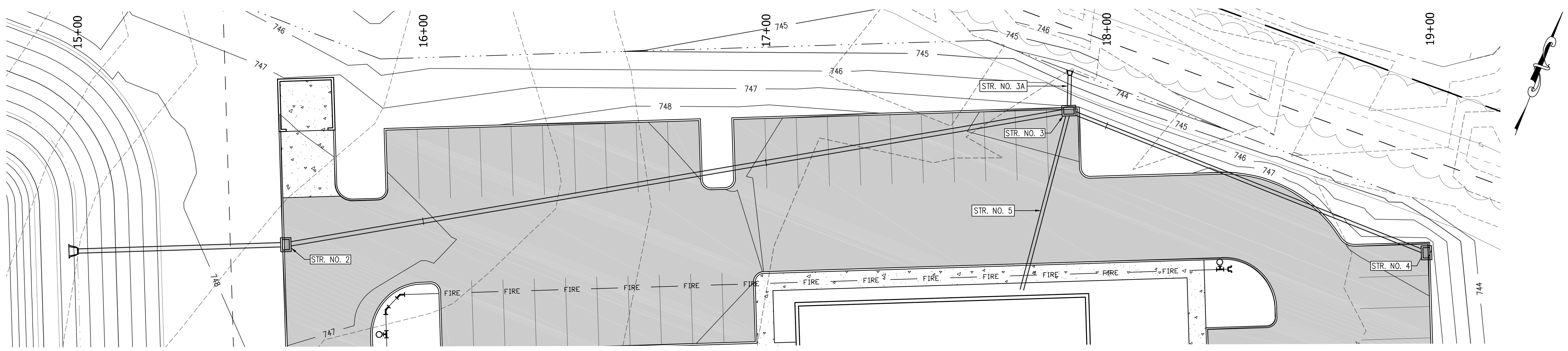
STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 4 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 111 LFT OF 12"ø RCP @ 0.30% RIM=746.75 INV OUT (12"~W)=743.77
STR. NO. 5 CONNECT PIPE TO PATIO YARD DRAIN (SEE BUILDING PLAN FOR EXACT LOCATION) 53 LFT OF 12"ø HDPE @ 1.05% INV OUT (12"~N)=744.00
STR. NO. 6 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 97 LFT OF 18"ø RCP @ 0.26% RIM=746.50 INV IN (18"~E)=742.50 INV OUT (18"~W)=742.50
STR. NO. 7 INSTALL CURB INLET TYPE 'M' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 134 LFT OF 18"ø RCP @ 0.26% RIM=746.35 INV IN (15"~NE)=743.10 INV IN (12"~NW)=743.35 INV OUT (18"~W)=742.85

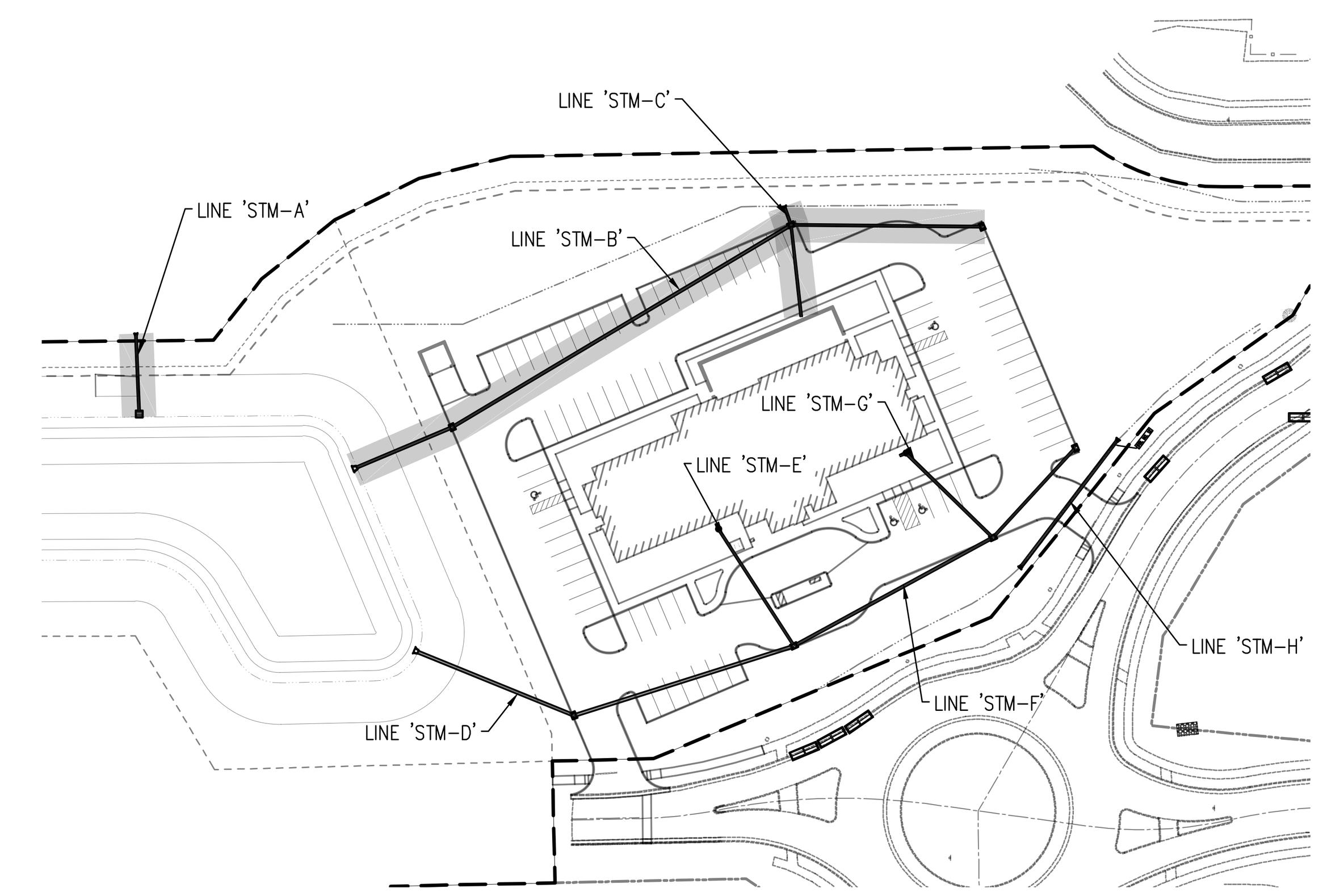
STORM SEWER STRUCTURE TABLE
STR. DATA
STR. NO. 8 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 131 LFT OF 15"ø RCP @ 0.20% RIM=746.18 INV IN (12"~NE)=743.61 INV IN (12"~NW)=743.61 INV OUT (15"~SW)=743.36
STR. NO. 9 INSTALL CURB INLET TYPE 'J' WITH NEENAH CASTING R-3287-10V OR AN APPROVED EQUAL AND 71 LFT OF 12"ø RCP @ 0.30% RIM=746.50 INV OUT (12"~SW)=743.82
STR. NO. 10 INSTALL 12" NYLOPLAST DRAIN BASIN WITH SOLID COVER AND 70 LFT OF 12"ø HDPE @ 0.56% RIM=748.25 INV IN (12"~W)=744.70 INV OUT (12"~SE)=744.00
STR. NO. 11 INSTALL 12" NYLOPLAST DRAIN BASIN WITH SOLID COVER AND 80 LFT OF 12"ø HDPE @ 0.50% RIM=748.25 INV IN (12"~NW)=744.66 INV OUT (12"~SE)=743.75

CULVERT DATA TABLE
STR. DATA
STR. NO. 12 INSTALL TWO (2) PIPE END SECTIONS AND 91 LFT OF 15"ø RCP @ 0.43% U.S. EL=741.80 D.S. EL.=741.41









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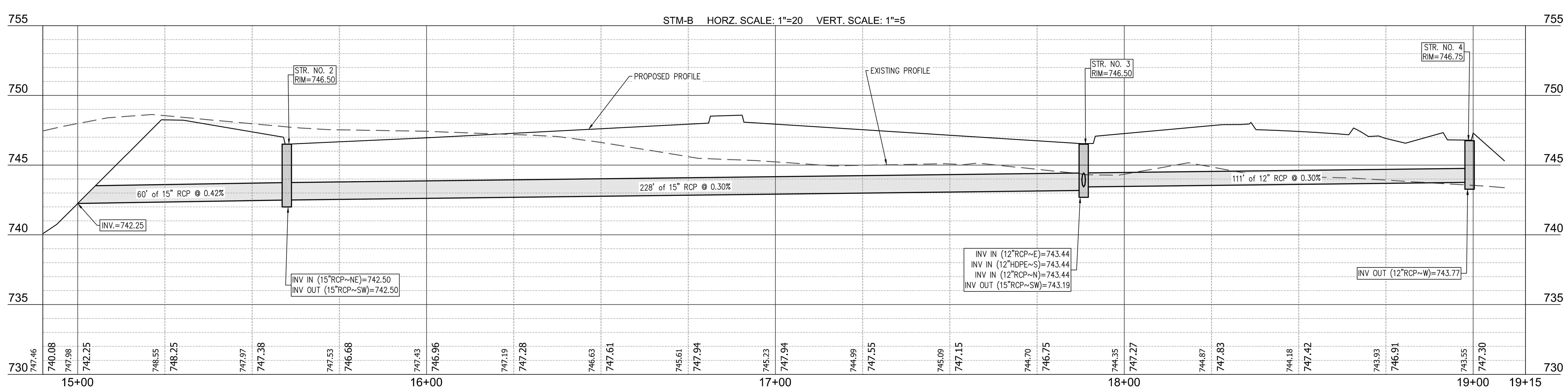

811

Know what's below. Call before you dig.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

STORM PLAN AND PROFILE

MARRIOTT FAIRFIELD INN & SUITES

JOB NO.	-	DRAWN	KLF/LMC	CHECKED	TEN
DATE	SEPTEMBER 15, 2017	DESIGNED	DMS	APPR.	GJI

SHEET 600

DEREK M. SNYDER
REGISTERED
NO. 11200008
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPR.
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SHEET 600

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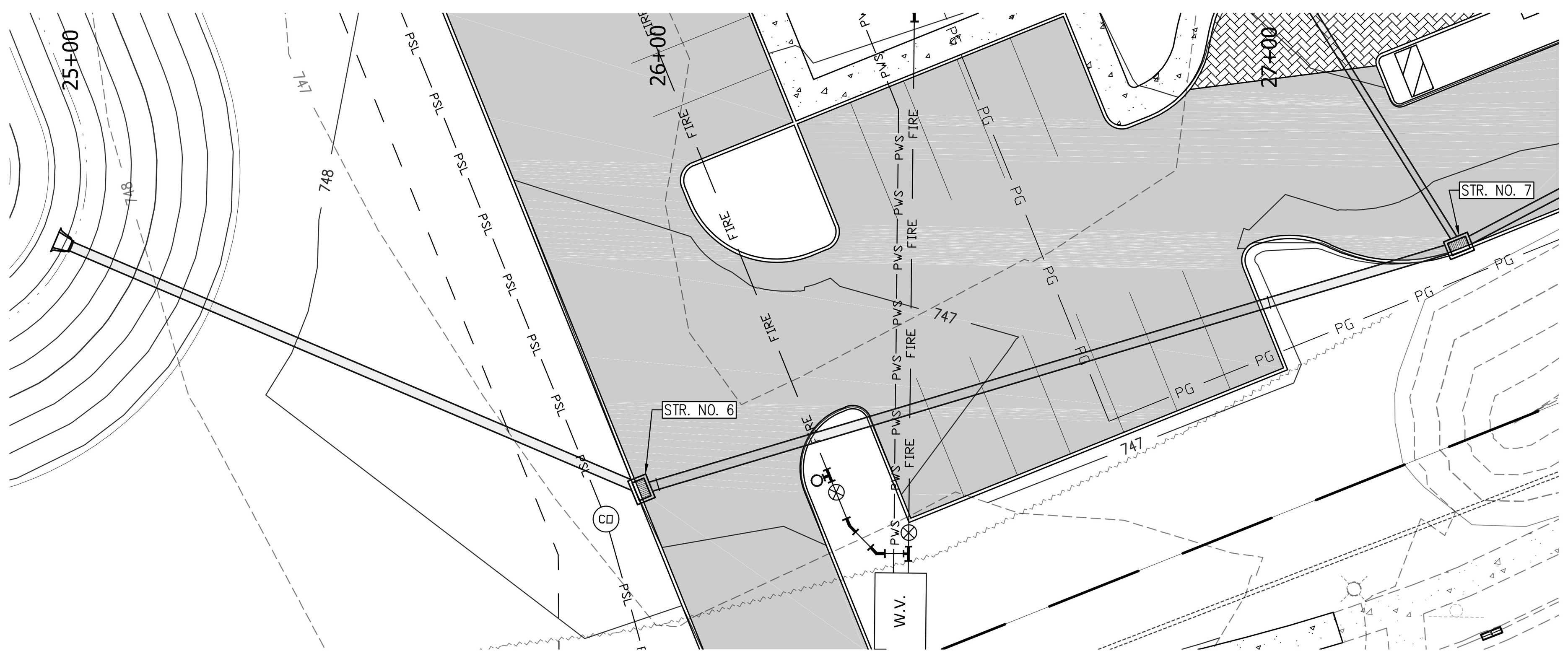

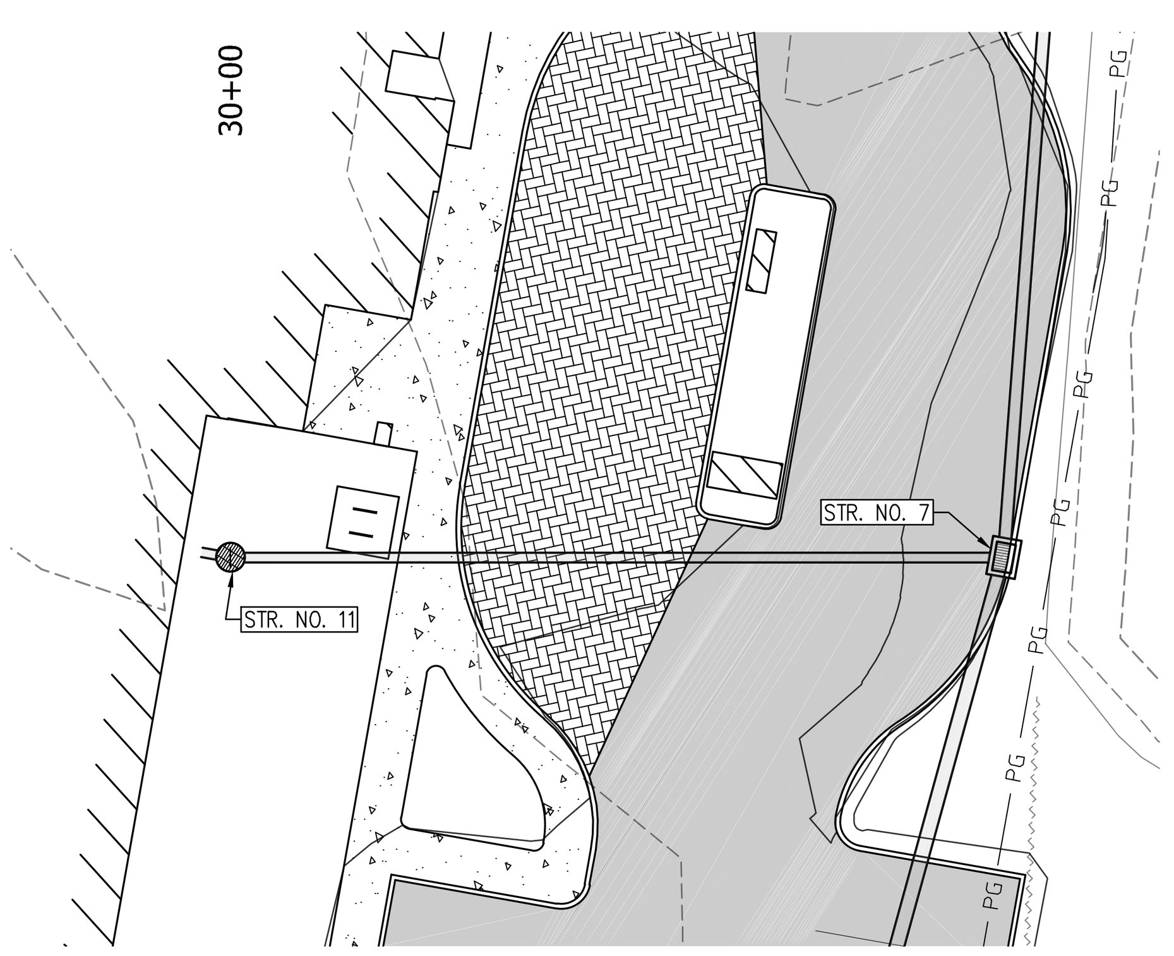

20 0 20 40

SCALE: 1" = 20'

811
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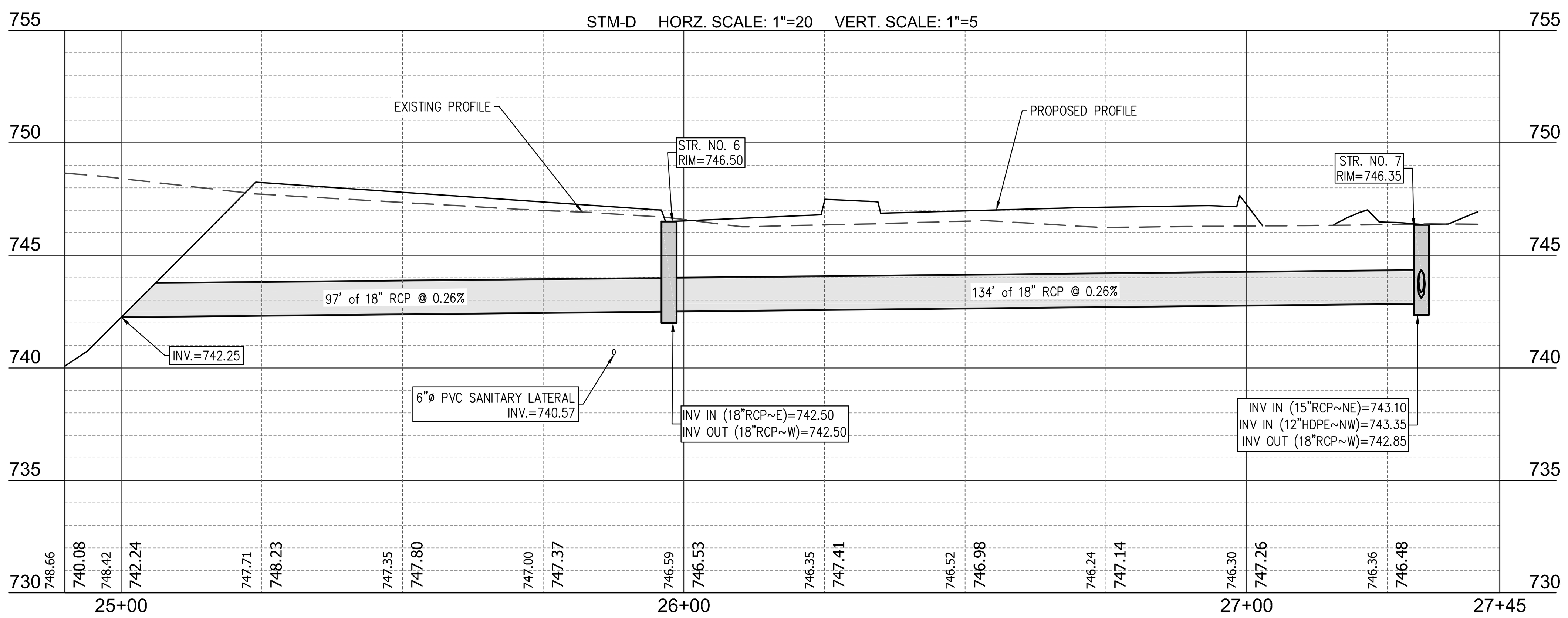
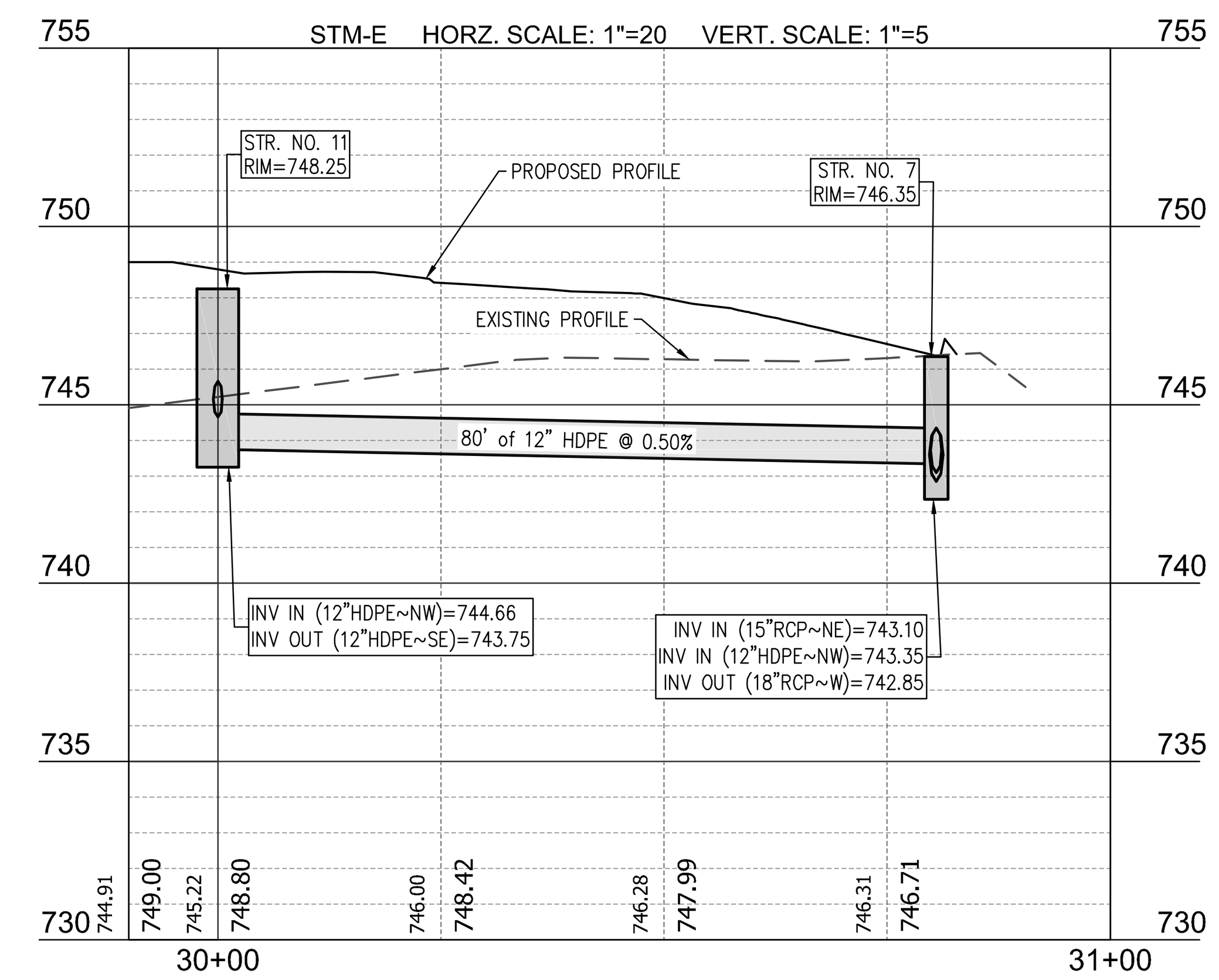
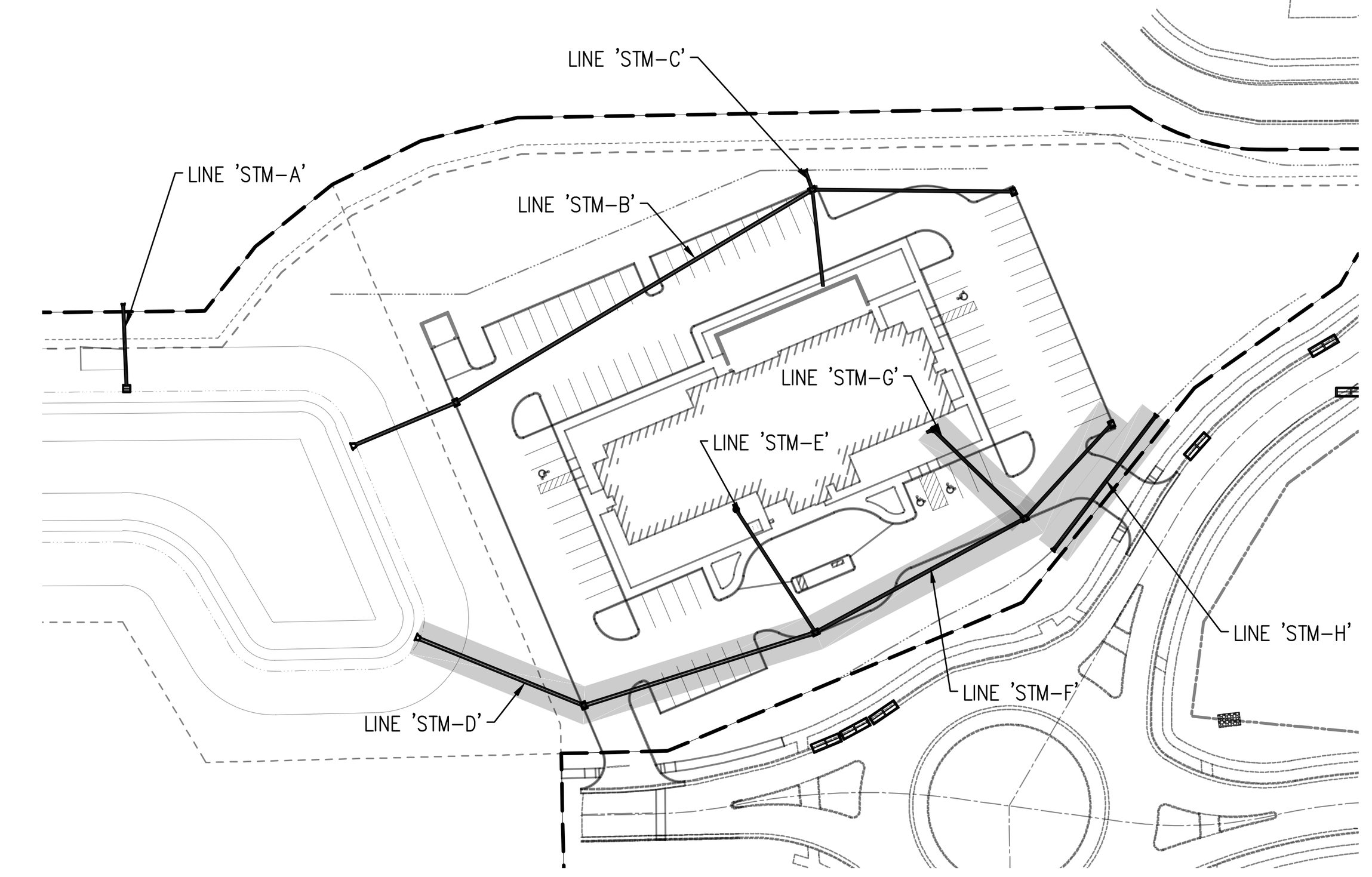
PROPOSED LEGEND

- PROPERTY LINE
- SECTION LINE
- PHASE LINE
- SETBACK LINE
- FENCE LINE
- DITCH LINE
- SANITARY SEWER WITH MANHOLE
- SANITARY SEWER LATERAL WITH CLEANOUT
- STORM SEWER W/MANHOLE & END SECTION
- ELECTRIC LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- STORM INLETS
- ELECTRIC TRANSFORMER
- WATER TEE
- GENERATOR
- 45° BEND
- GREASE TRAP
- 11.25° BEND
- LIGHT POLE
- TAPPING SLEEVE
- YARD LIGHT
- WATER VALVE
- SIGN
- FIRE HYDRANT
- WATER VAULT
- STORTZ FDC







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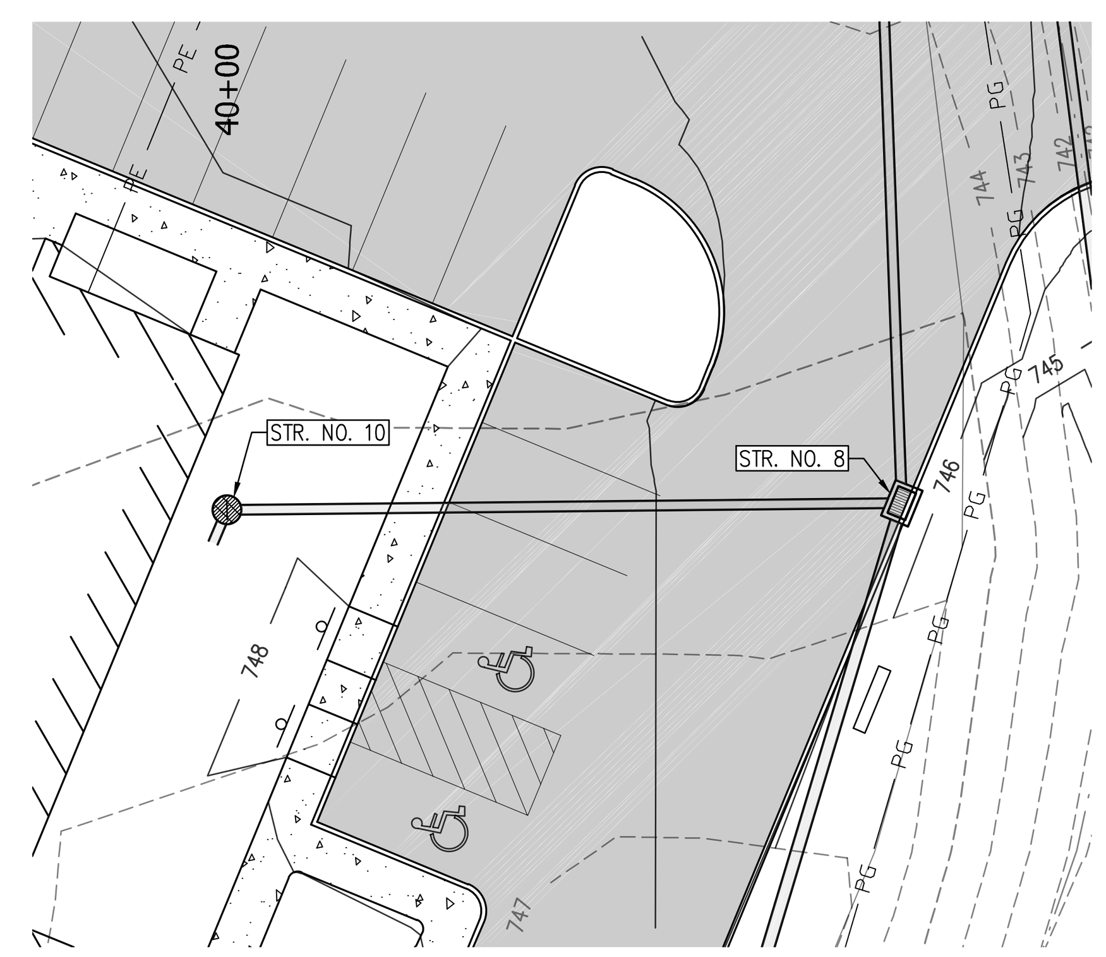

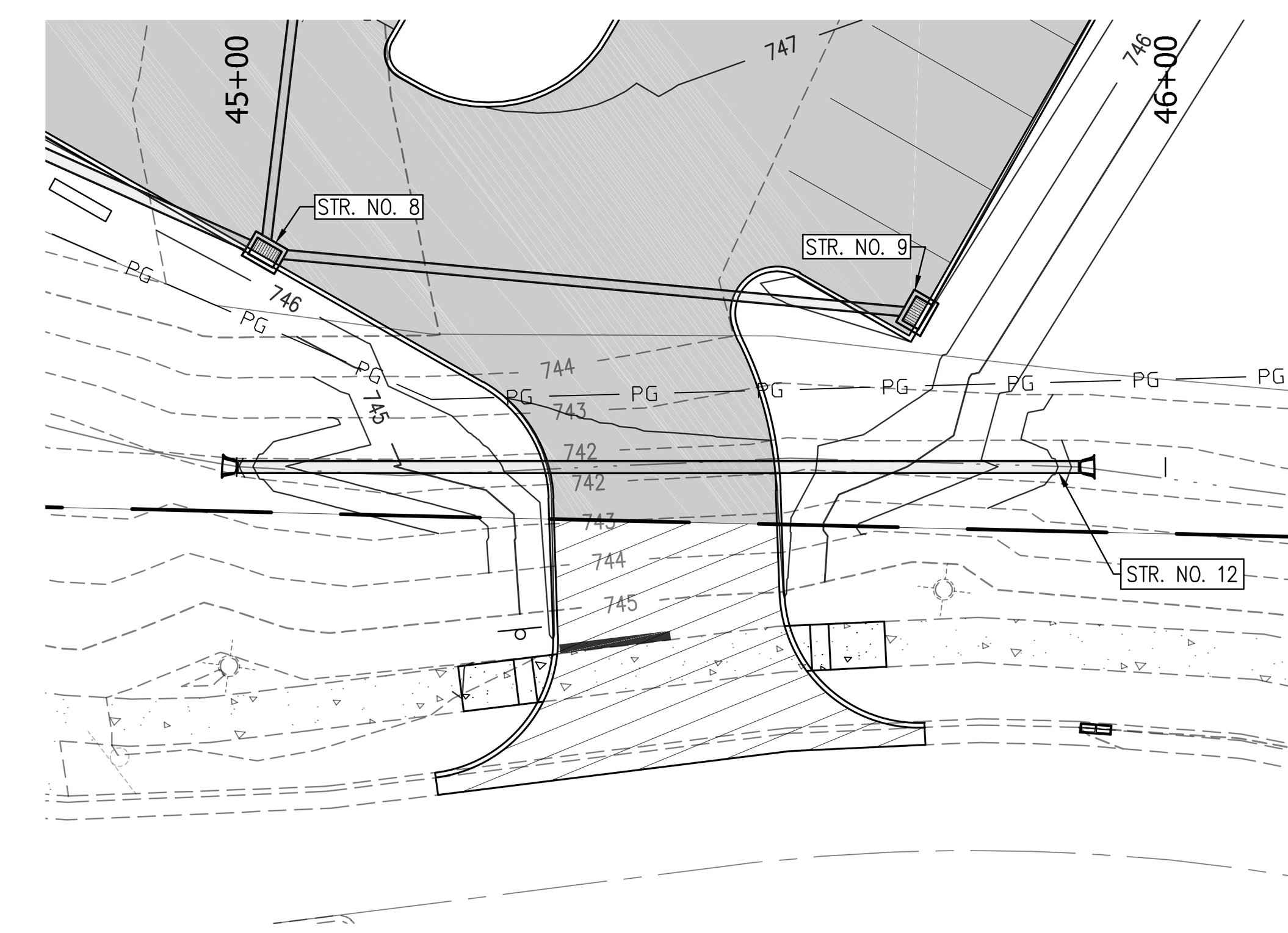

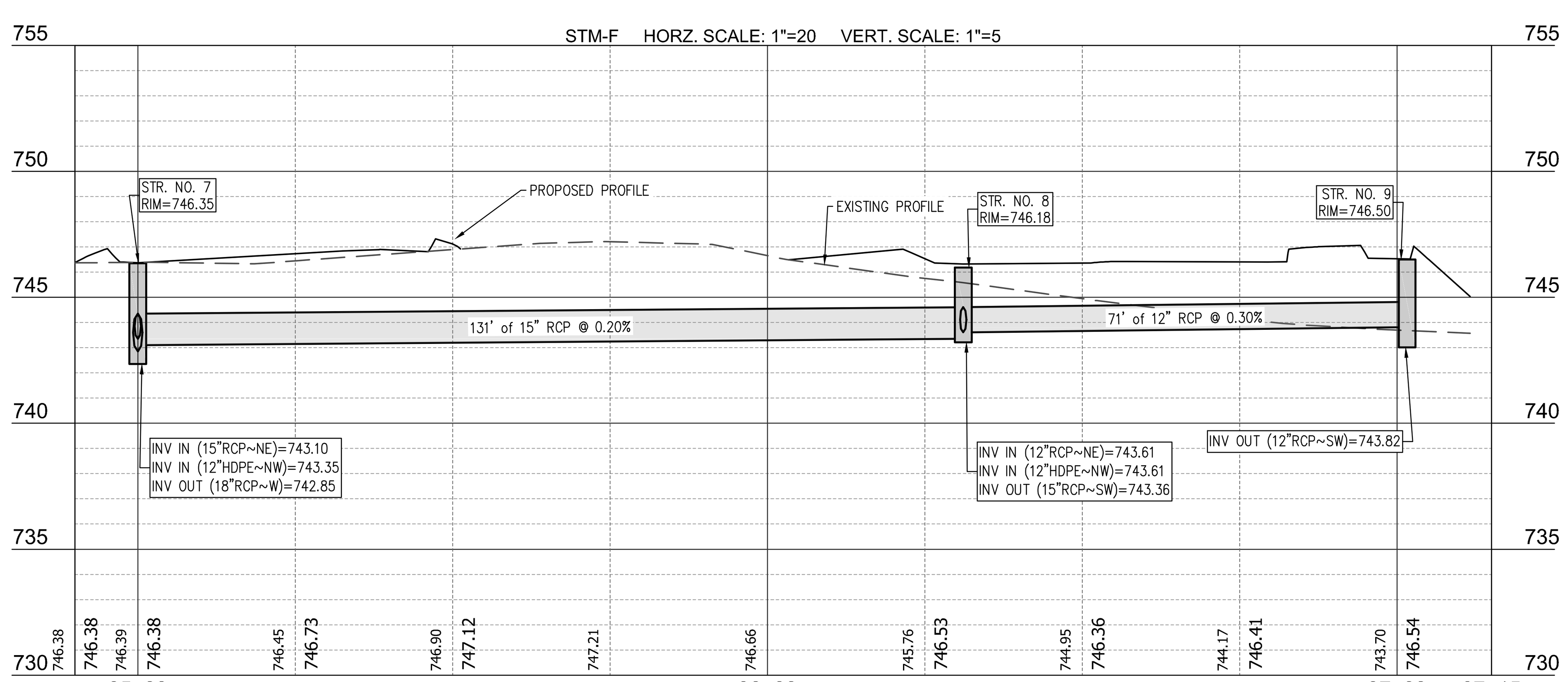

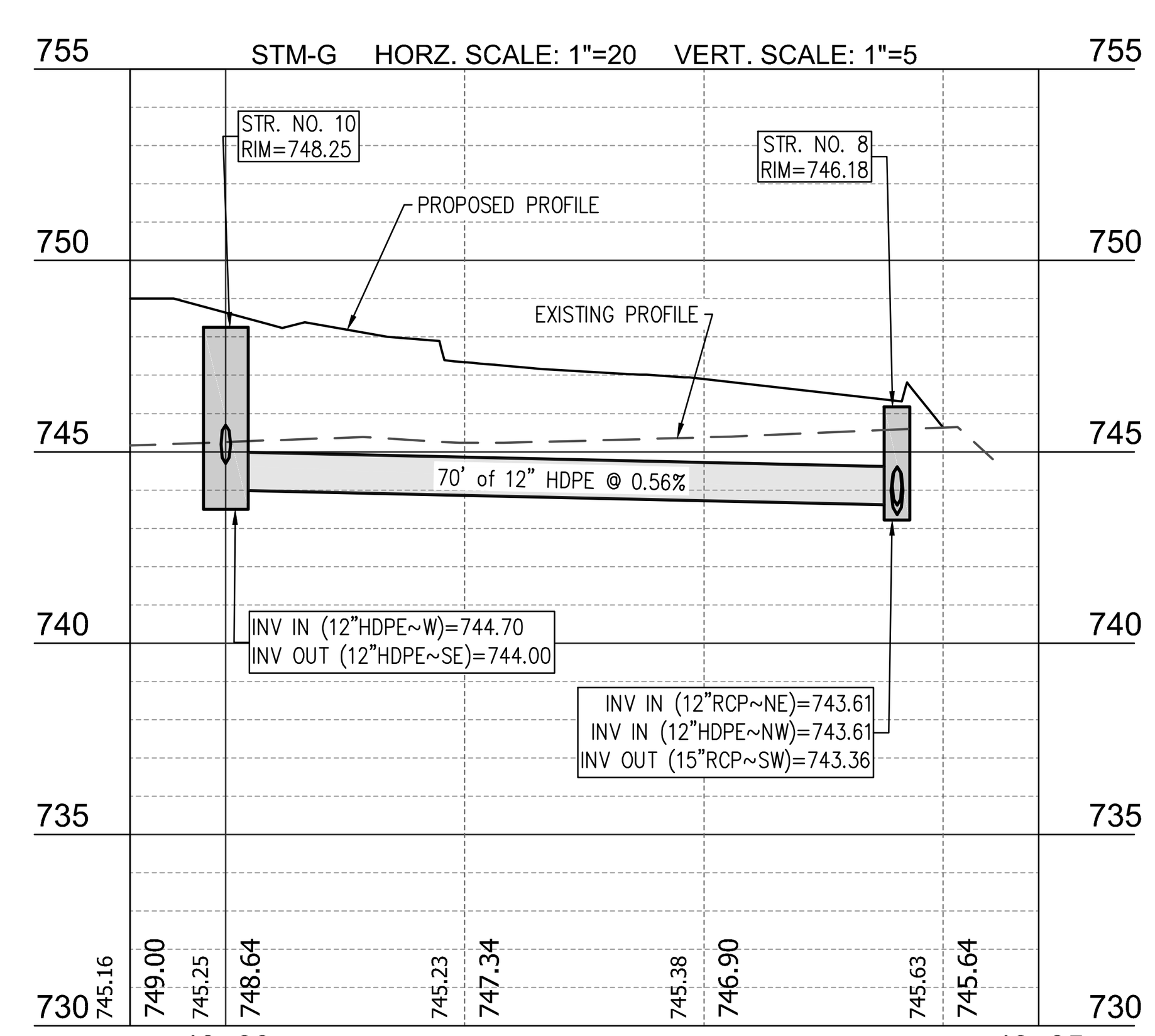

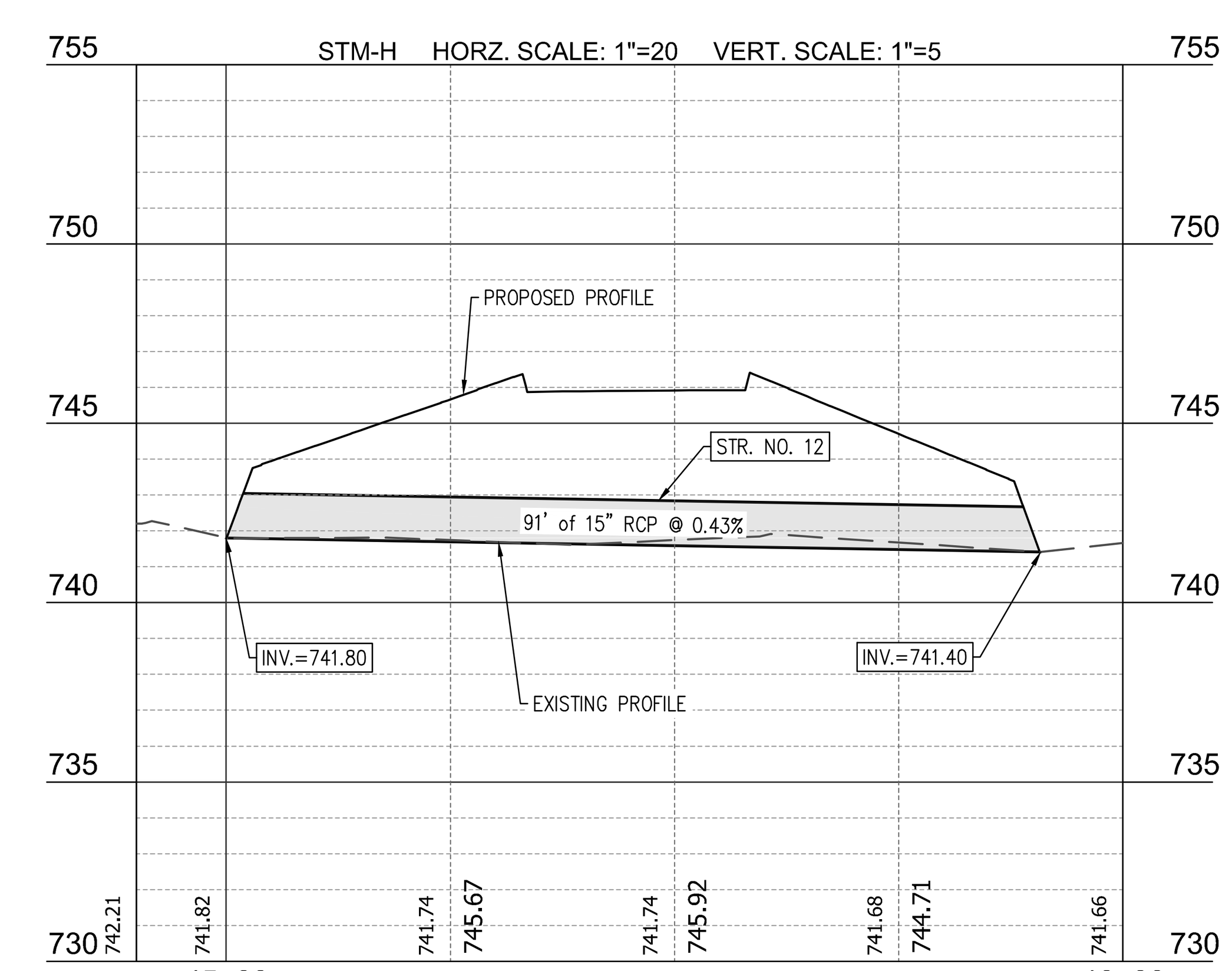

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CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

STORM PLAN AND PROFILE

MARRIOTT FAIRFIELD INN & SUITES

JOB No.	.	DATE	SEPTEMBER 15, 2017
DRAWN	KLF/LMC	DESIGNED	DMS
CHECKED	TEN	APPR.	GJI

DEREK M. SNYDER, REGISTERED NO. 11200008, STATE OF INDIANA, PROFESSIONAL ENGINEER

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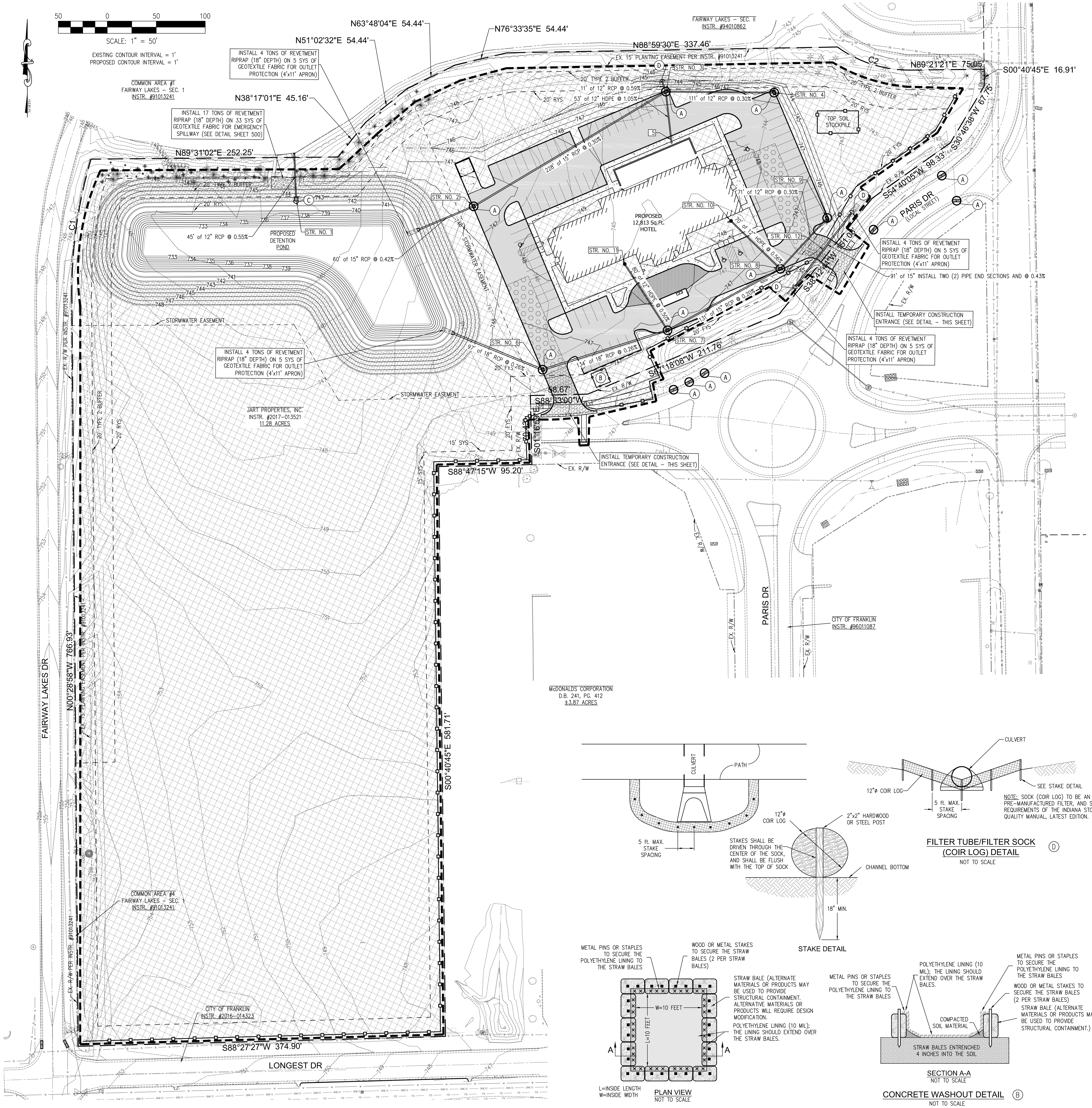
SHEET 601



EROSION CONTROL NOTES

1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY STATE, COUNTY, OR LOCAL OFFICIALS.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED IN THE FIELD BY THE INSPECTOR.
3. CONSTRUCTION STAGING AREA (TO BE DETERMINED BY CONTRACTOR) SHALL INCLUDE THE NOI POSTING, PORT-O-LETS, TRASH CONTAINERS, AND FUELING TANKS.
4. A TRAINED INDIVIDUAL MUST PERFORM AN INSPECTION ONCE A WEEK AND AFTER EVERY ½" OR MORE RAIN EVENT. A LOG OF THE INSPECTION REPORTS MUST BE KEPT AND MADE AVAILABLE TO THE CITY INSPECTOR UPON REQUEST.
5. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS WITHIN THE EXISTING STREET OR RIGHT-OF-WAYS.
6. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL AND THE S.C.S. "FIELD OFFICE TECHNICAL GUIDE".
7. ALL STORM WATER CASTINGS SHALL BE PHASE II COMPLIANT.

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

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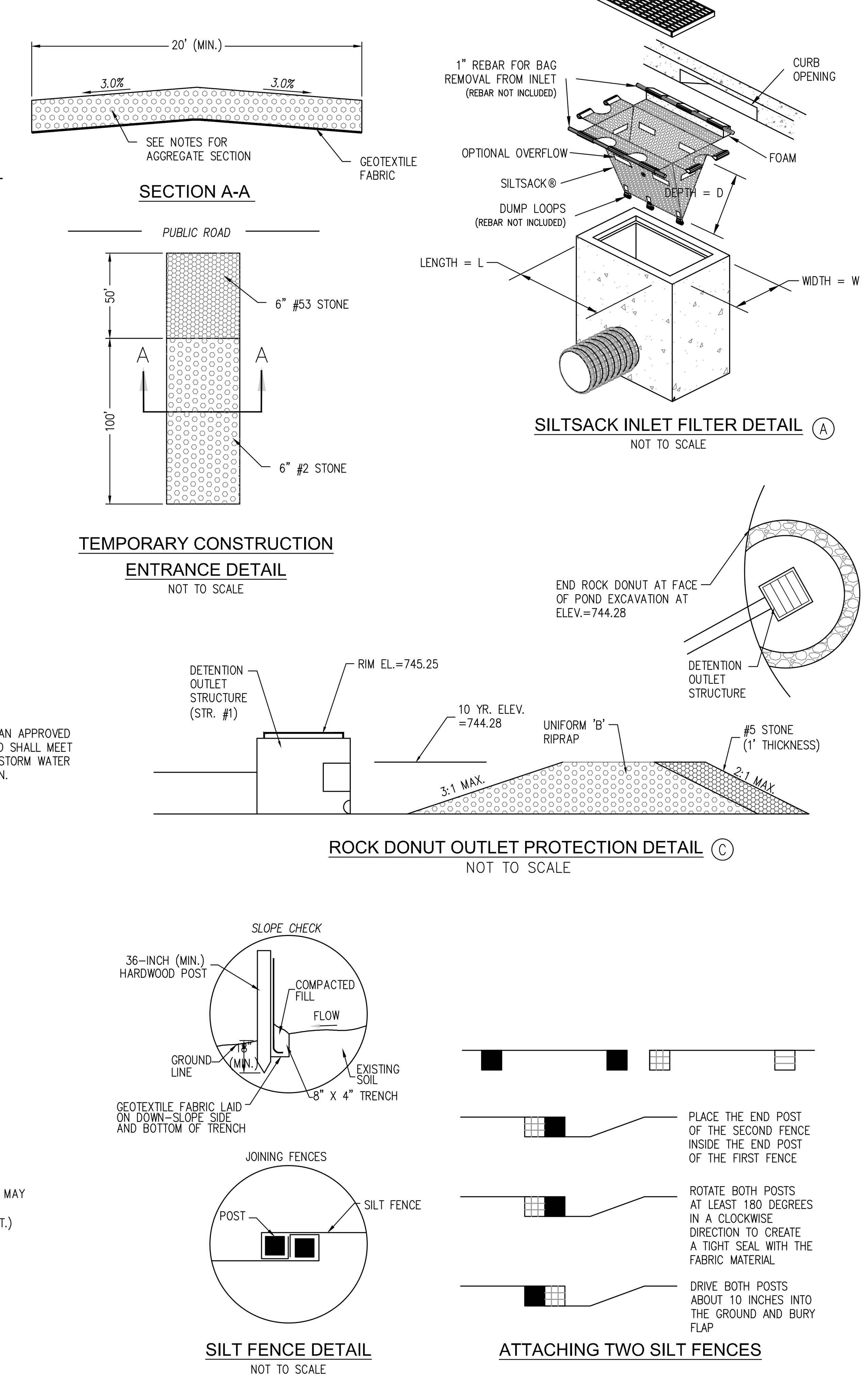
EROSION CONTROL LEGEND

	MULCHED SEEDING/LANDSCAPE AREA
	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC-150 OR EQUAL) AND MULCHED SEEDING
	REVETMENT RIPRAP
	CONSTRUCTION DRIVE (SEE DETAIL THIS SHEET)
800	EXISTING CONTOURS
800	PROPOSED CONTOURS
	SILT FENCE SLOPE CHECK (NUTEC 3 NWS-6 OR APPROVED EQUAL)
	CONSTRUCTION LIMITS
A	SILT SACK INLET PROTECTION (SEE DETAIL-THIS SHEET)
B	CONCRETE WASHOUT AREA (SEE DETAIL-THIS SHEET)
C	ROCK DONUT OUTLET PROTECTION (SEE DETAIL-THIS SHEET)
D	COIL LOG/FILTER TUBE (SEE DETAIL-THIS SHEET)



DEREK M. SNYDER REGISTERED NO. 11200008 STATE OF INDIANA PROFESSIONAL ENGINEER

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

EROSION CONTROL PLAN

MARRIOTT FAIRFIELD INN & SUITES

JOB No.	.	DRAWN	KLF/LMC
CHECKED	TEN		
DATE	SEPTEMBER 15, 2017	DESIGNED	DMS
APPR.	GJI		

SHEET 700

NO.	DATE	REVISIONS	BY	APPR.
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SHEET 700

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EROSION CONTROL PLAN INDEX

PLAN ELEMENTS

A1

RULE 5 EROSION CONTROL PLAN INDEX

ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET	ELEMENT	SHEET
A4	701	A19	700	B4	700 & 701	B12	700 & 701
A5	701	A21	700	B5	700 & 701	B13	701
A6	700	A22	700	B6	700 & 701	B14	701
A15	700	A23	700	B7	700 & 701		
A16	700	B2	701	B10	700 & 701		
A18	701	B3	701	B11	700 & 701		

A2 11 BY 17 INCH PLAT
The 11x17 inch Plat has been submitted to the City of Franklin Stormwater Department.

A3 PROJECT NARRATIVE
The project involves the construction of a ±12,812 square foot Marriott Fairfield Inn & Suites hote. The project is located at the northwest corner of the Paris Drive roundabout within the City of Franklin. Curbs, parking lot, and walks necessary for the development will be constructed as part of the project. Runoff will be captured by storm sewer inlets and pipe end sections and conveyed to a wet detention pond via a storm sewer network. In addition to water quantity, the wet detention pond will provide water quality treatment for the site. Water, sanitary, telephone, cable, gas and electric utilities shall serve the site as well. Construction is anticipated to begin in October 2017.

A4 VICINITY MAP
The Vicinity Map is located in the right half of the Stormwater Pollution Prevention Plan (this sheet).
Latitude N 39°29'09" Longitude W 86°01'07"

A5 LEGAL DESCRIPTION
The Legal Description of the project site is located in the lower right quadrant of the Stormwater Pollution Prevention Plan (this sheet).

A6 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS
All pertinent lot information is included on the plan view of the Erosion Control Plan (Sheet 700). Anticipated utilities and structures are depicted as well.

A7 HYDROLOGIC UNIT CODE
The Hydrologic Unit Code for the represented watershed of this project is: 05120204090070

A8 STATE AND/OR FEDERAL WATER QUALITY PERMITS
The IDEM Rule 5 Notice of Intent will be obtained and posted onsite prior to beginning land disturbance activities. No other State of Federal water quality permits are required for this project.

A9 STORMWATER DISCHARGE
Stormwater discharge shall leave the site via a 12"Ø RCP and detention pond outlet structure located near the northwest corner of the site. The detention pond outlet structure will discharge into the existing detention pond located in the Fairway Lakes – Section 1 subdivision immediately north of the site.

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

A11 RECEIVING WATERS
The ultimate receiving water for this project is Amity Ditch.

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

A13 100 YEAR FLOOD PLAINS, FLOODWAYS AND FLOODWAY FRINGES
By graphic plotting only, this tract of land hereon lies within Zone "X" (areas determined to be outside of the 0.2% annual chance floodplain) as plotted by hand on the Flood Insurance Rate Map (FIRM) for the City of Franklin, Johnson County, Indiana, Community Panel No. 18081 C 0232D, which bears effective date of August 2, 2007. The accuracy of all flood hazard data shown on this project is subject to map scale uncertainty and to any other uncertainty in location of elevation on the recorded Flood Insurance Rate Map.

A14 POST–CONSTRUCTION PEAK DISCHARGE
Qpost Max. (10 year) = 37.86 cfs (inflow to pond)
Qpost Max. (10 year) = 1.75 cfs (outflow from pond)

A15 ADJACENT LANDUSE
The adjacent land uses are residential (north & west) and commercial (south and east).

A16 DISTURBED AREAS
The construction limits (boundary of disturbed area) are shown on the Erosion Control Plan (Sheet 700).

A17 EXISTING VEGETATIVE COVER
The existing site is largely cultivated field with some grass areas and landscape mounds.

A18 SOILS MAP AND DESCRIPTIONS
The soils map and all pertinent soil type information are located on the upper right quadrant of the Stormwater Pollution Prevention Plan (this sheet).

A19 PROPOSED STORMWATER SYSTEMS
The proposed stormwater system sizes and dimensions are labeled on the Erosion Control Plan (Sheet 700).

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

A21 SOIL STOCKPILES, BORROW/DISPOSAL AREAS
Topsoil shall be stockpiled in a convenient location (as determined by the owner and/or contractor) within the construction site as shown on the Erosion Control Plan (Sheet 700). The proposed detention shall be used as a borrow area in the event additional soil is needed for grading.

A22 EXISTING SITE TOPOGRAPHY
Existing one–foot contours are shown on the Erosion Control Plan (Sheet 700).

A23 PROPOSED SITE TOPOGRAPHY
Proposed one–foot contours are shown on the Erosion Control Plan (Sheet 700).

STORMWATER POLLUTION PREVENTION - DURING CONSTRUCTION

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

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

B3 CONSTRUCTION ENTRANCE
The construction entrances shall be installed along the south side of the site off Paris Drive. Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plans (Sheets 700–701).

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS
Sediment Control measures for Sheet flow areas are shown on the Erosion Control Plan (Sheet 700). Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS
Sediment Control measures for concentrated flow areas are shown on the Erosion Control Plan (Sheet 700). Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

B6 STORM SEWER INLET PROTECTION MEASURES
Storm sewer inlet protection measures are shown on the Erosion Control Plan (Sheet 700). Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

B7 RUNOFF CONTROL MEASURES
Runoff control measures are shown on the Erosion Control Plan (Sheet 700). Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

B8 STORMWATER OUTLET PROTECTION MEASURES
Stormwater outlet protection measures are shown on the Erosion Control Plan (Sheet 700). Specifications and details are located on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

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

B10 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
Each stormwater quality measure is shown on the Erosion Control Plan (Sheet 700) and associated details/specifications are shown on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701).

B11 TEMPORARY SURFACE STABILIZATION
Temporary surface stabilization methods are shown on the Erosion Control Plan (Sheet 700) and detailed on the Stormwater Pollution Prevention Plan (this sheet).

B12 PERMANENT SURFACE STABILIZATION
Permanent surface stabilization methods are shown on the Erosion Control Plan (Sheet 700) and detailed on the Stormwater Pollution Prevention Plan (this sheet).

B13 MATERIAL HANDLING AND SPILL PREVENTION
Spill prevention shall be accomplished by utilizing spillguards for equipment fueling and servicing operations. Spillguards shall be 3'x3'x6" and shall be constructed of a material resistant petroleum products (including diesel fuel and oil). Disposable absorbent spill pads are not acceptable as guards for pervious surfaces. On–site fuel storage tanks shall have emergency storage capacity directly below the tank in case of rupture. Any hazardous material spillage shall be collected and/or cleaned immediately by a trained individual and disposed of in accordance with all federal, state and local regulations.
Indiana Department of Environmental Management
Office of Emergency Response (317) 233–7745, Toll Free (800) 233–7745
Franklin Fire Department (317) 736–3651
Additional Material Handling and Spill Prevention (this sheet)

B14 MONITORING AND MAINTENANCE GUIDELINES
Monitoring and Maintenance Guidelines are located in the middle of the Stormwater Pollution Prevention Plan (this sheet).

B15 EROSION & SEDIMENT CONTROL MEASURES FOR INDIVIDUAL BUILDING LOTS
Not applicable as this site will be constructed as one lot/development.

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

STORMWATER POLLUTION PREVENTION - POST CONSTRUCTION

C1 PROPOSED POLLUTANTS AND SOURCES ASSOCIATED WITH PROPOSED LAND USE
Potential pollutants sources and materials may include the following:
Automobiles – Pertoleum Products (e.g. gasoline, oil/grease, ATF, etc), Hydrocarbons, Antifreeze, Trace Metals, etc.
Stormwater Runoff – Sediment, nutrients and chemicals (e.g. fertilizers, pesticides, etc)
Trash Service – Trash and debris, chemicals
Pets – Pet waste/bacteria
Kitchen Waste – food waste, fats, oils, grease, household chemicals and cleaning wastes.

C2 STORMWATER QUALITY MEASURE IMPLEMENTATION
Stormwater quality measures are implemented by construction of the site improvements.

C3 PROPOSED POST CONSTRUCTION STORMWATER QUALITY MEASURES
Post construction stormwater quality measures shall consist of a wet detention pond with outlet control structure for detention and water quality purposes.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS AND DETAILS OF EACH STORMWATER QUALITY MEASURE
The location of the water quality measure is at the normal pool elevation of the detention pond and the outlet control structure as detailed in construction plans.

C5 MAINTENANCE GUIDELINES OF POST CONSTRUCTION STORMWATER QUALITY MEASURES
The proposed outlet control structure and emergency spillway shall be inspected quarterly and after major rain events for any blockages. All obstructions and debris shall be removed upon inspection. All vegetated banks shall be maintained by mowing, removing trash and debris, and re–planting any eroded/non–vegetated areas as necessary. The pond depth shall be measured annually at the center of the pond to verify that the minimum normal pool depth is maintained.

MONITORING AND MAINTENANCE GUIDELINES

GRAVEL CONSTRUCTION DRIVE AND PARKING AREA:
- A. Inspect daily and after each storm event. Immediately remove mud and sediment tracked or washed onto public roads.
- B. Top dress with clean aggregate as needed. Reshape pad as needed for drainage and runoff control.
- C. Flushing should only be used if the water can be conveyed into a sediment trap or basin.

TOPSOIL:
- A. Inspect daily until vegetation is established.
- B. Check for erosion or damage of newly spread topsoil and repair immediately.

TEMPORARY AND PERMANENT SEEDING:
- A. Inspect seeding within 24 hours of each rain event and at least once every seven calendar days until vegetation is established.
- B. Check for erosion or movement of mulch and repair immediately.
- C. Plan to add fertilizer the following growing season according to soil test recommendations.
- D. Repair damaged, bare, or sparse areas by filling any gullies, re–fertilizing, over– or re–seeding, and mulching.
- E. If plant cover is sparse or patchy, review the plant materials chosen, soil fertility, moisture condition, and mulching; repair the affected area either by over–seeding or by re–seeding and mulching after re–preparing the seed bed.
- F. If vegetation fails to grow, consider soil testing to determine acidity or nutrient deficiency problems.
- G. If additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations.
- H. Reference INDOT Specification 621.05.

MULCHING:
- A. Inspect within 24 hours of each rain event to check for movement of mulch or for erosion.
- B. If washout, breakage, or erosion is present, repair damage areas, re–seed, apply new mulch, and anchor mulch in place.
- C. Continue inspections until vegetation is firmly established.
- D. Reference INDOT Specification 621.05.

RIPRAP:
- A. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially downstream or downslope.

EROSION CONTROL BLANKET:
- A. Inspect within 24 hours of each rain event and at least once every seven calendar days. Check for erosion or displacement of the blanket.
- B. If any area shows erosion, pull back that portion of the blanket covering the eroded area, add soil and tamp, re–seed the area, and re–lay and staple the blanket.
- C. After vegetative establishment, check the treated area periodically.

SILT FENCE:
- A. Inspect within 24 hours of each rain event and at least once every seven calendar days.
- B. If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.
- C. Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.
- D. Take care to avoid undermining the fence during clean out.
- E. After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize.

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

FILTER TUBE/FILTER SOCK (COIR LOG):
- A. Inspect within 24 hours of a rain event and at least once every seven calendar days.
- B. Remove accumulated sediment when it reaches one–quarter the height of the filter sock.
- C. Inspect to ensure the sock is maintaining its integretiy and producing adequate flow.
- D. Repair eroded and damaged areas.
- E. If ponding is excessive, remove sock and either reconstructed or new product installed.
- F. Reseed, if applicable.

CONCRETE WASHOUT:
- A. Concrete washout area shall be installed prior to any concrete placement on site.
- B. Signs shall be placed at the construction entrance, at the washout area, and elsewhere as necessary to clearly indicate the location of the concrete washout area to operators of concrete trucks and pump rigs.
- C. The concrete washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete.
- D. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site.
- E. When the concrete washout area is removed, the disturbed area shall be seeded and mulched or otherwise stabilized in a manner approved by the inspector.

WET DETENTION POND AS TEMPORARY SEDIMENT BASIN:
- A. Inspect within 24 hours of each rain event and at least once every seven calendar days.
- B. Remove and properly dispose of sediment when it accumulates to one–half the design volume.
- C. Periodically check embankment, emergency spillway, and outlet structure for erosion damage, piping, settling, seepage, or slumping along the toe or around the barrel; repair all damage immediately.
- D. Remove trash and other debris from outlet structure and trash guard, emergency spillway, and pool area.
- E. Clean and replace aggregate for rock donut inlet protection around the outlet if the sediment pool does not dewater (drain) within 48 to 72 hours following s storm water runoff event.
- F. Upon completion of final grading and permanent stabilization operations, remove all accumulated sediment from the detention pond and dispose of it in an approved waste site. Remove rock donut protection and stabilize area around the detention outlet structure.

CONSTRUCTION SEQUENCE & SCHEDULE OF EROSION CONTROL IMPLEMENTATION

1. Schedule a Rule 5 Pre–Construction Meeting with the City of Franklin MS4 Coordinator and the City of Franklin Engineering Department at least 48 hours prior to start of work.
2. Install silt fence per the Erosion Control Plan (Sheet 700) before any land disturbing activity begins.
3. Install temporary construction entrances in accordance with the details and specifications on the Erosion Control Plan and Stormwater Pollution Prevention Plan (Sheets 700–701). The construction entrances shall remain in place until the completion of all earthwork operations.
4. Excavate for wet detention pond and install the outlet structure (STR #1) and pipe. Install rock donut inlet protection around STR. #1. Disturbed areas should be seeded immediately following rough grading. Areas that will not be disturbed again should be permanently seeded. No unvegetated areas should be exposed for more than seven days.
5. Strip topsoil and stockpile as shown on the Erosion Control Plan (Sheet 700).
6. Begin earthwork fill operations. Install temporary swales as necessary to direct runoff toward the detention pond to utilize pond as an additional runoff control measure during construction. Areas that will not be disturbed again shall be permanently seeded immediately after rough grading. Temporary seed areas left undisturbed for more than seven days.
7. Install coir log/filter tube in temporary swales during fill operations. Coir logs shall remain in place during all fill operations.
8. Install drainage structures upon completion of the fill operations. Storm sewer shall only be install when all earthwork fill operations are complete and compaction requirements are met. Drop inlet protection and silt sack protection measures shall be placed around new structures as soon as they are in place and until vegetation is secure.
7. Install concrete washout per the detail on the Erosion Control Plan (Sheet 700). Concrete washout shall remain in place until all concrete work is complete.
8. Install coir log/filter tube in all permanent swales per the detail on the Erosion Control Plan (sheet 700), as soon as, the storm sewer and swale grading is complete.
9. Construct parking lots, sidewalks, and other site improvements. Remove concrete washout areas upon completion of concrete placement.
8. Remove and dispose of all trash from the site. Remove accumulated sediment from the wet pond and incorporate into the topsoil stockpile.
9. Final grade site utilizing stockpiled topsoil and install all permanent surface stabilization features including seeding, erosion control blankets, sod, and plantings. All erosion control blankets shall be installed per manufacturers recommendations as soon as final grading is complete. Install permanent erosion control measures (i.e. rip rap) as soon as final grading is complete.
10. Final paving operations. All temporary erosion control measures, except those specified for removal in the sequences above, shall remain in place until vegetation is secure.

EROSION CONTROL BLANKET STAPLE PATTERN DETAIL

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

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

ADDITIONAL MATERIAL HANDLING AND SPILL PREVENTION PLAN

A. Purpose

The purpose of this plan is two fold:
1. To help protect the health and safety of those working on the site as well as the environment.
2. Preventing the contamination of storm water runoff. Pollutants generated onsite may include gasoline, diesel fuel, oils, grease, paints, pesticides, nutrients, concrete washout, soil, solvents, paper, plastic, Styrofoam, metals, glass and other forms of liquid or solid wastes.

This plan outlines procedures to help prevent health and safety issues, contamination of storm water by onsite pollutants, help prevent fuel and chemical spills and provide a response procedure should a spill occur.

B. Prevention and Readiness

1. The contractor or responsible party will prepare a contact list in the event of a spill on the site. The contact list will have names and contact numbers. The contact list will specify first responders and a chain of command. Include information on what circumstances require the initiation of the contact list and chain of command.
2. The contractor/owner shall maintain a list of qualified contractors, Vac–trucks, tank pumpers and other equipment or businesses qualified to do clean–up operations. Absorbent materials and supplies need to be available onsite in sufficient quantities to address minor spills. All employees need to be educated on the proper application of the absorbent materials.
3. All maintenance and equipment operators must be aware and trained for prevention of spills. A continuing education program is required for new employees and emphasizing the importance to all employees.
4. All materials used in the course of a cleanup will be disposed in a manor approved by Indiana Department of Environmental Management.
5. Using water to flush spilled material will not be permitted unless authorized by a state, federal, or local agency. Tarps can be used to cover spilled material during rain events.

C. Spill Response

Minor – Small spills that typically involve oil gasoline, paint, hydraulic fluid etc. Minor spills can be controlled by the first responder at the discovery of the spill.
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean–up spill material and any subsequently contaminated soil and dispose of properly.

Semi–significant Spills – Approximately ten gallons or less of pollutant with no contamination of ground or surface waters. Minor spills can be generally controlled by the first responder with help from other site personnel. This response may require other operations to stop to make sure the spill is quickly and safely addressed. At the discovery of the spill:
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean–up spills and dispose of properly. Spills on impervious surfaces should be contained with a dry absorbent. Spills on clayey soils should be contained by constructing an earthen dike and should be disposed of as soon as possible to prevent migration deeper into the soil and groundwater. Dispose of contaminated soils or absorbents properly.
- Contact 911 if this spill could be a safety issue.
- Contact supervisors and designated inspectors immediately
- Contaminated solids to be removed to an approved landfill.

Major or Hazardous Spills – More than ten gallons, there is the potential for death, injury or illness to humans or animals or has the potential for surface or groundwater pollution.
- Control or contain the spill without risking bodily harm. Temporarily plug storm drains if possible to prevent migration of the spill into the stormwater system.
- Immediately contact the local Fire Department at 911 to report any hazard material spill.
- Contact supervisors and designated inspectors immediately. Other county or municipal officials (list as needed) responsible for storm water facilities should be contacted as well. The contractor is responsible for having these contact numbers available at the job site. A written report should be submitted to the owner as soon as possible.
- As soon as possible but within 2 hours of discovery, contact the Department of Environmental Management,
  Office of Emergency Response 1–888–233–7745. The following information should be noted for future reports to IDEM or the National Response Center.
  - o Name, address and phone number of person making the spill report
  - o The location of the spill
  - o The time of the spill
  - o Identification of the spilled substance
  - o Approximate quantity of the substance that has been spilled or may be further spilled
  - o The duration and source of the spill
  - o Name and location of the damaged waters
  - o Name of spill response organization
  - o What measures were taken in the spill response
  - o Other information that may be significant

Additional regulation or requirements may be present. A spill response professional should be consulted to make sure all appropriate and required steps have been taken. Contaminated solids should only be removed from the site after approval is given by Emergency Response.

D. The following procedures and practices will help prevent unnecessary spills

I. Vehicle and Equipment Fueling

Description and Purpose:
- Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Limitations:
- Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling.

Implementation:
- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage "topping–off" of fuel tanks.
- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should be disposed of properly after use.
- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the absorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- Dedicated fueling areas should be protected from stormwater run–on and runoff, and should be located at least 50 feet away from the downstream drainage facilities and watercourses. Fueling must be performed on level–grade areas.
- Protect fueling areas with berms and dikes to prevent run–on, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Inspection and Maintenance
- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.
- Immediately clean up spills and properly dispose of contaminated soils.

II. Solid Waste Management

Description of Purpose:
- Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications:
This BMP is suitable for construction sites where the following wastes are generated or stored:
- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction.
- Packaging materials including wood, paper, and plastic.
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces, and masonry products.
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes,
- Construction waste including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non–hazardous equipment parts. Styrofoam and other materials send transport and package construction materials.

Implementation:
The following steps will help keep a clean site and reduce stormwater pollution:
- Select designated waste collection areas onsite.
- Inform trash–hauling contractors that you will accept only watertight dumpsters for onsite use.
- Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove this solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acid, pesticides, additives, curing compounds) are not disposed of in dumpsters designed for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas. Solid waste storage areas should be located in areas prone to flooding or ponding.
- Locate solid waste dumpster a minimum of 50' away from storm water inlets or other drainage facilities.
- Locate dumpster on stone or earth to minimize the potential for spills or leaks to drain immediately into a drainage facility.

Inspection and Maintenance:
- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation.
- Inspect BMPs subject to non–stormwater discharge daily while non–stormwater discharges occur.
- Inspect construction waste are regularly.
- Arrange for regular waste collection.

III. Concrete Washout

The following steps will help reduce stormwater pollution from concrete wastes:
- Discuss the concrete management techniques described in the BMP (such as handling of concrete waste and washout) with the reddy–mix concrete supplier before any deliveries are made.
- Incorporate requirements for concrete waste management into material supplier and subcontractors' agreements.
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks offsite or in designed areas only.
- Do not wash concrete trucks into storm drains open ditches, streets, or streams.
- Do no allow excess concrete to be dumped onsite, except in designed areas.

For onsite washout:
- Locate washout areas at least 50 feet from storm drains, open ditches, or water bodies.
- Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
- Avoid creating runoff by drinking water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
- Do not wash sweepings form exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.

IV. Vehicle Maintenance Areas
Purpose– To prevent spills during the normal maintenance of construction machinery.

Implementation– Where and when feasible, maintenance shall be preformed offsite in covered facility with an impervious floor.
- Use a dedicated site for machinery maintenance
- Site the maintenance area at least 50 feet from storm water inlets or water bodies
- Maintain clean up materials close at hand. Utilize drip pans and absorbent pads to prevent oils from reaching the soil surface.
- Inspect equipment daily for leaks or worn hoses. Repair or replace to prevent onsite spills
- Properly dispose of all fluids removed or spilled from machinery.

V. Fluids, paints, solvents and other chemicals storage and use

Purpose– To prevent spills during the use and storage of the materials

Implementation–
- Store materials in there original containers
- Maintain safety data sheets on all products
- Store materials in a weather proof/vandal resistant locker or building
- Keep materials away from flammable sources
- Provide and read instructions for the proper use and storage of all materials
- For bulk material stored onsite, provide diking or double containment in case of leaks or failures.
- No washout of solvent from paint supplies should be done near or into a storm water inlet or other drainage facility.

VI. Disposal of sediment laden water

Purpose– To prevent the purposeful discharge of sediment laden water into waters of the United States.

Implementation–
- The sediment and any other pollutant from all pumping or dewatering operations that discharge into storm sewers, wetlands, drainage ways or water bodies must be removed from the water before it's discharged.
- A suitable practice is needed at the discharge to allow the suspended solids to be removed from the water column. Slow moving water and time are needed components for an effective practice. Mechanical filters and chemical flocculants can do an excellent job of removing the fine materials.
- Sediment removal pumping bags may be used at the outlet of a pump. The bags must be sized appropriately for the amount of flow. The practice needs to be installed on erosion resistant surfaces. The outlet of the pumping bag must be erosion resistant to prevent additional sedimentation.
- Pumping operations that are moving clean water through a site are not required to have a pumping bag or similar device at the outlet. The point of discharge should be protected to prevent soil erosion.

TEMPORARY SEEDING DATES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
WHEAT OR RYE								■	■	■		
SPRING OATS			■	■	■							
ANNUAL RYEGRASS				■	■	■	■	■				
PERMANENT SEEDING DATES												
NON–IRRIGATED *			■	■	■			■	■			
IRRIGATED			■	■	■	■	■	■	■			
DORMANT SEEDING **	■	■									■	■

■ IRRIGATION NEEDED DURING THIS PERIOD. TO CONTROL EROSION AT TIMES OTHER THAN IN THE SHADED AREAS, USE MULCH.

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

** –INCREASE SEEDING APPLICATION BY 50%.

TEMPORARY SEEDINGS

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

* NOT NECESSARY WHERE MULCH IS APPLIED.

VICINITY MAP

NOT TO SCALE

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

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

PERMANENT SEED MIXTURES

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

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

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

RANKING
1 GOOD
2 MEDIUM
– NOT TOLERANT

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

Know what's below.
Call before you dig.

Johnson County, Indiana (IN081)

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

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

MIAMI SILT LOAM (MnB2)
This gently sloping soil is along drainageways that cross areas of somewhat poorly drained Crosby soils. Slopes are 2 to 6 percent. Runoff is medium. Moderate erosion is the main limitation.

SOIL MAP AND DESCRIPTION

NOT TO SCALE

LEGAL DESCRIPTION

INSTR. #2017–013521
PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN, IN THE CITY OF FRANKLIN, JOHNSON COUNTY, INDIANA, DESCRIBED AS FOLLOWS: BEGINNING ON THE EAST LINE OF THE SAID HALF QUARTER SECTION 86.68 FEET SOUTH OF THE NORTHEAST CORNER THEREOF; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST ON AND ALONG THE SAID EAST LINE 393.63 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 191.58 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 580.54 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 70.00 FEET; THENCE NORTH 00 DEGREES 40 MINUTES 45 SECONDS WEST 580.45 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 300.00 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 581.71 FEET; THENCE NORTH 88 DEGREES 29 MINUTES 20 SECONDS EAST 225.42 FEET; THENCE NORTH 88 DEGREES 47 MINUTES 15 SECONDS EAST 65.54 FEET; THENCE SOUTH 01 DEGREE 12 MINUTES 45 SECONDS EAST 50.00 FEET TO THE NORTH RIGHT–OF–WAY LINE OF STATE ROAD 44; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST ON AND ALONG THE SAID RIGHT–OF–WAY LINE 65.54 FEET; THENCE SOUTH 88 DEGREES 14 MINUTES 16 SECONDS WEST ON AND ALONG THE SAID RIGHT–OF–WAY LINE 414.25 FEET; THENCE SOUTH 87 DEGREES 16 MINUTES 14 SECONDS WEST ON AND ALONG THE SAID RIGHT–OF–WAY LINE 187.85 FEET TO THE SOUTHEAST CORNER OF FAIRWAY LAKES, SECTION 1, AS RECORDED IN PLAT CABINET C, PAGE 515, THENCE NORTH 00 DEGREES 28 MINUTES 58 SECONDS WEST 50.04 FEET; THENCE NORTH 87 DEGREES 16 MINUTES 14 SECONDS EAST 1.00 FEET; THENCE NORTH 00 DEGREES 28 MINUTES 58 SECONDS WEST 772.48 FEET; THENCE NORTHEASTERLY ON A TANGENT CURVE TO THE RIGHT WHICH HAS A RADIUS OF 474.00 FEET A CURVED DISTANCE OF 140.52 FEET; SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH 08 DEGREES 00 MINUTES 36 SECONDS EAST 140.01 FEET; THENCE NORTH 89 DEGREES 31 MINUTES 02 SECONDS EAST 252.25 FEET; THENCE NORTH 38 DEGREES 17 MINUTES 01 SECONDS EAST 45.16 FEET; THENCE NORTH 51 DEGREES 02 MINUTES 32 SECONDS EAST 54.44 FEET; THENCE NORTH 63 DEGREES 48 MINUTES 04 SECONDS EAST 54.44 FEET; THENCE NORTH 76 DEGREES 33 MINUTES 35 SECONDS EAST 54.44 FEET; THENCE NORTH 88 DEGREES 59 MINUTES 30 SECONDS EAST 337.46 FEET; THENCE SOUTHEASTERLY ON A CURVE TO THE LEFT WHICH HAS A RADIUS OF 126.00 FEET A CURVED DISTANCE OF 79.75 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH 72 DEGREES 30 MINUTES 47 SECONDS EAST 78.42 FEET; THENCE NORTH 89 DEGREES 21 MINUTES EAST 75.05 FEET TO THE POINT OF BEGINNING, CONTAINING 14.868 ACRES MORE OR LESS.

EXCEPTING THEREFROM THAT PORTION OF REAL ESTATE TAKEN FOR RIGHT–OF–WAY AS SET OUT IN DEDICATION OF PUBLIC RIGHT–OF–WAY FROM TRIPLE T PROPERTY INVESTMENTS, INC. (GRANTOR) TO CITY OF FRANKLIN, INDIANA (GRANTEE) RECORDED JUNE 29, 2016 AS INSTRUMENT NO. 2016–14323 AND DESCRIBED AS FOLLOWS:

PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN JOHNSON COUNTY, INDIANA, AND BEING THAT PART OF THE GRANTOR'S LAND DEPICTED ON THE RIGHT OF WAY PARCEL PLAT MARKED AS EXHIBIT B ON INSTRUMENT NO. 2016–14323 AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID HALF QUARTER SECTION, SAID POINT BEING DESIGNATED AS "429" ON SAID PARCEL PLAT; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 103.59 FEET ALONG THE EAST LINE OF SAID HALF QUARTER SECTION TO THE POINT OF BEGINNING; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 120.11 FEET ALONG THE GRANTOR'S EAST LINE AND EAST LINE OF SAID HALF QUARTER SECTIONS; THENCE SOUTH 53 DEGREES 44 MINUTES 56 SECONDS WEST 80.82 FEET TO POINT "530" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 31 DEGREES 37 MINUTES 22 SECONDS WEST 89.12 FEET TO POINT "531" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 07 DEGREES 48 MINUTES 39 SECONDS WEST 52.41 FEET TO POINT "532" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 84 DEGREES 13 MINUTES 58 SECONDS EAST 120.70 FEET TO THE GRANTOR'S EAST LINE; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 18.78 FEET ALONG THE GRANTOR'S EAST LINE; THENCE SOUTH 89 DEGREES 08 MINUTES 30 SECONDS WEST 261.58 FEET TO THE POINT "535" AS DESIGNATED ON SAID PARCEL PLAT; THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 49.94 FEET TO A SOUTHEAST CORNER OF THE GRANTOR'S LAND; THENCE SOUTH 89 DEGREES 08 MINUTES 36 SECONDS WEST 204.80 FEET ALONG A SOUTH LINE OF THE GRANTOR'S LAND; THENCE NORTH 00 DEGREES 55 MINUTES 53 SECONDS WEST 70.27 FEET TO PONT "537" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 88 DEGREES 54 MINUTES 21 SECONDS EAST 5867 FEET; TO POINT "538" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 67 DEGREES 39 MINUTES 29 SECONDS EAST 211.76 FEET TO POINT "539" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 39 DEGREES 04 MINUTES 05 SECONDS EAST 151.08 FEET TO POINT "540" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 55 DEGREES 01 MINUTES 26 SECONDS EAST 98.33 FEET TO POINT "541" AS DESIGNATED ON SAID PARCEL PLAT; THENCE NORTH 31 DEGREES 07 MINUTES 31 SECONDS 67.76 FEET TO THE POINT OF BEGINNING. (CONTAINING 1.218 ACRES MORE OR LESS)

ALSO EXCEPTING:

PART OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 12 NORTH, RANGE 5 EAST OF THE SECOND PRINCIPAL MERIDIAN JOHNSON COUNTY, INDIANA, AND BEING THAT PART OF THE GRANTOR'S LAND DEPICTED ON THE RIGHT OF WAY PARCEL PLAT MARKED AS EXHIBIT B OF INSTRUMENT NO. 2016–14323 AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID HALF QUARTER SECTION, SAID POINT BEING DESIGNATED AS "429" ON SAID PARCEL PLAT, THENCE SOUTH 00 DEGREES 19 MINUTES 24 SECONDS EAST 1060.85 FEET ALONG THE EAST LINE OF SAID HALF QUARTER SECTION; THENCE SOUTH 89 DEGREES 28 MINUTES 38 SECONDS WEST 270.64 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION, SAID POINT BEING A CORNER OF THE GRANTOR; THENCE SOUTH 00 DEGREES 51 MINUTES 22 SECONDS EAST 50.00 FEET ALONG AN EAST LINE OF THE GRANTOR TO THE SOUTHEAST CORNER THEREOF; THENCE SOUTH 89 DEGREES 08 MINUTES 36 SECONDS WEST 65.54 FEET ALONG THE GRANTOR'S SOUTH LINE; THENCE SOUTH 88 DEGREES 35 MINUTES 39 SECONDS WEST 414.25 FEET ALONG THE GRANTOR'S SOUTH LINE; THENCE SOUTH 87 DEGREES 37 MINUTES 37 SECONDS WEST 187.85 FEET ALONG THE GRANTOR'S SOUTH LINE TO THE SOUTHWEST CORNER THEREOF, THENCE NORTH 00 DEGREES 07 MINUTES 35 SECONDS WEST 50.04 FEET ALONG GRANTOR'S WEST LINE; THENCE NORTH 00 DEGREES 07 MINUTES 35 SECONDS WEST 5.55 FEET ALONG THE GRANTOR'S WEST LINE; THENCE NORTH 88 DEGREES 48 MINUTES 50 SECONDS EAST 374.90 FEET TO A CORNER OF THE GRANTOR'S LAND; THENCE NORTH 88 DEGREES 50 MINUTES 43 SECONDS EAST 225.42 FEET ALONG A LINE OF THE GRANTOR'S; THENCE NORTH 89 DEGREES 08 MINUTES 38 SECONDS EAST 65.54 FEET ALONG A GRANTOR'S LINE TO THE POINT OF BEGINNING (CONTAINING 0.790 ACRES MORE OR LESS)

ALSO EXCEPTING:

COMMENCING ON THE EAST LINE OF THE SAID HALF QUARTER SECTION 86.68 FEET SOUTH OF THE NORTHEAST CORNER THEREOF; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS ON AND ALONG SAID EAST LINE 343.63 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 0 DEGREES 40 MINUTES 45 SECONDS EAST A DISTANCE OF 50.00 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 191.58 FEET; THENCE SOUTH 00 DEGREES 40 MINUTES 45 SECONDS EAST 580.54 FEET; THENCE SOUTH 88 DEGREES 47 MINUTES 15 SECONDS WEST 70.00 FEET; THENCE NORTH 00 DEGREES 40 MINUTES 45 SECONDS WEST 630.54 FEET; THENCE NORTH 88 DEGREES 47 MINUTES 15 SECONDS EAST 261.58 FEET TO THE POINT OF BEGINNING. CONTAINING 1.233 ACRES MORE OR LESS.

CROSSROAD ENGINEERS, PC
Transportation & Development Consultants

SHEET 701

STORMWATER POLLUTION PREVENTION PLAN

MARRIOTT FAIRFIELD INN & SUITES

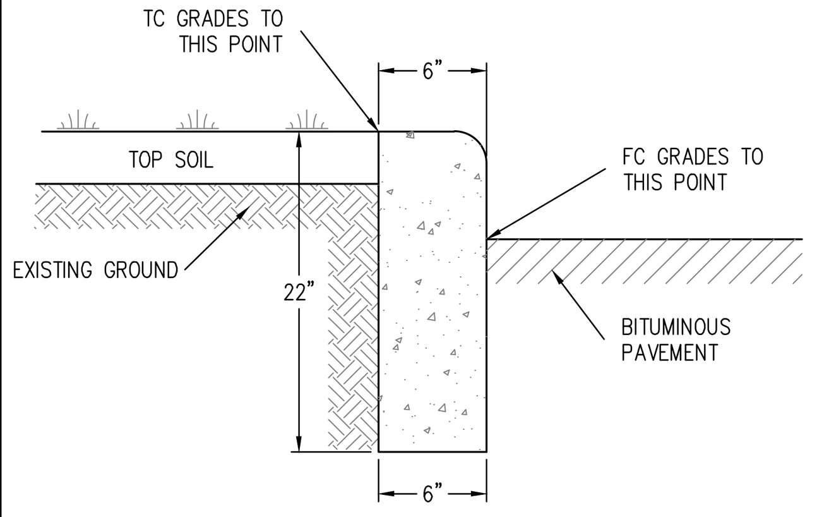
CHECKED	TEN	APPR.	GJI
DRAWN	KLF/LMC	DESIGNED	DMS
JOB No.		DATE	SEPTEMBER 15, 2017

DEREK M. SNYDER
No. 11200008

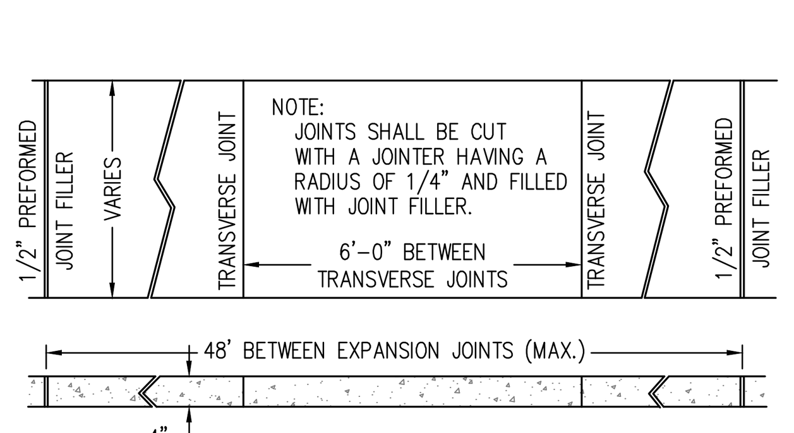
NO.	DATE	REVISIONS	BY	APPR.
9				
8				
7				
6				
5				
4				
3				
2				
1				

SHEET 701

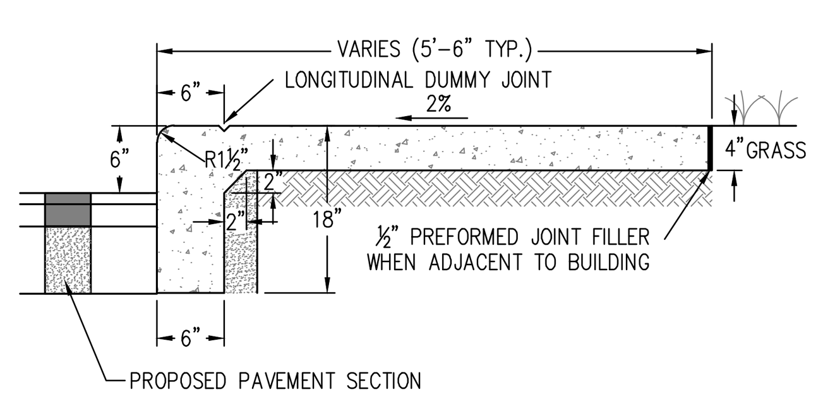
DIRECTORY PATH : R:\Active\Hotel Development Services, LLC\Design\CAD\Plans
FILENAME : 701 EROSION CONTROL DETAILS.dwg
DATE/USER : 9/14/2017 4:59 PM / LCOX



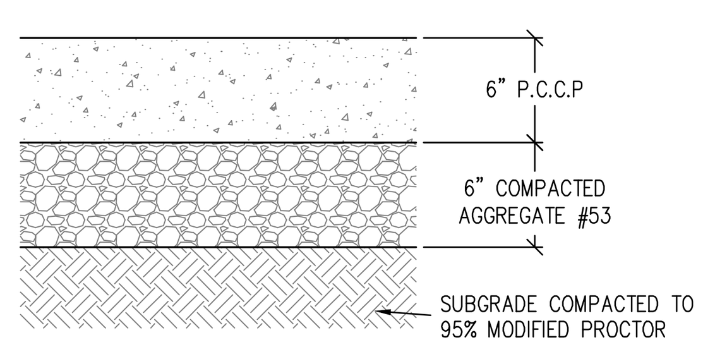
STRAIGHT CONCRETE CURB (C)
NOT TO SCALE



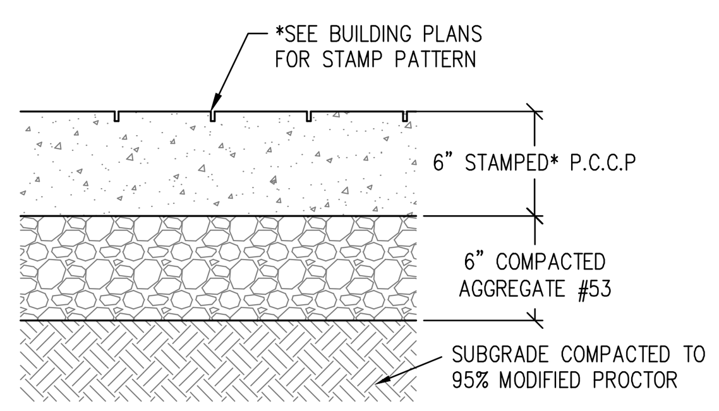
CONCRETE SIDEWALK (D)
NOT TO SCALE



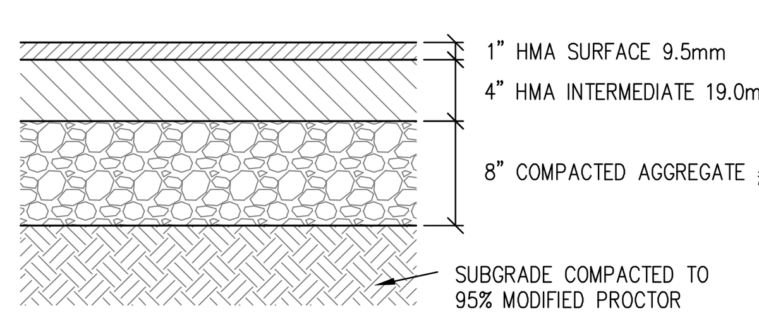
MONOLITHIC CURB AND SIDEWALK (D1)
NOT TO SCALE



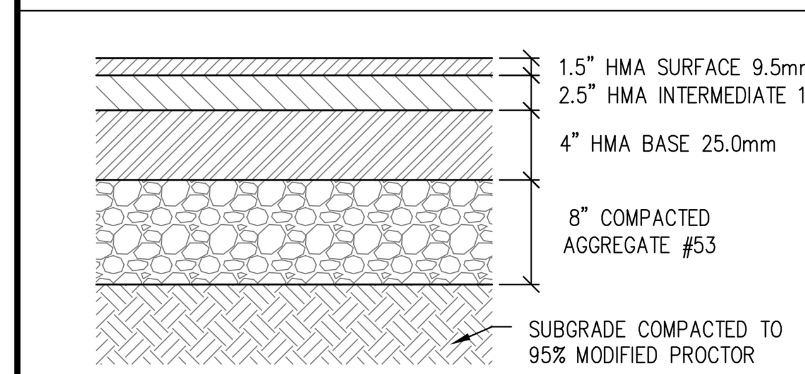
TYPICAL CONCRETE PAVEMENT SECTION (G)
NOT TO SCALE



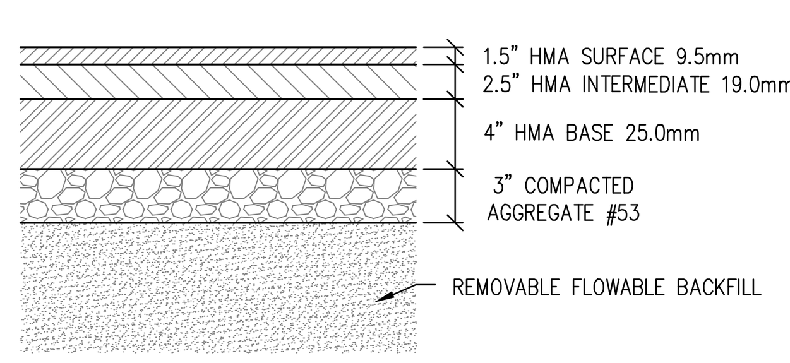
TYPICAL STAMPED CONCRETE PAVEMENT SECTION (G1)
NOT TO SCALE



TYPICAL ASPHALT PAVEMENT SECTION (K)
NOT TO SCALE

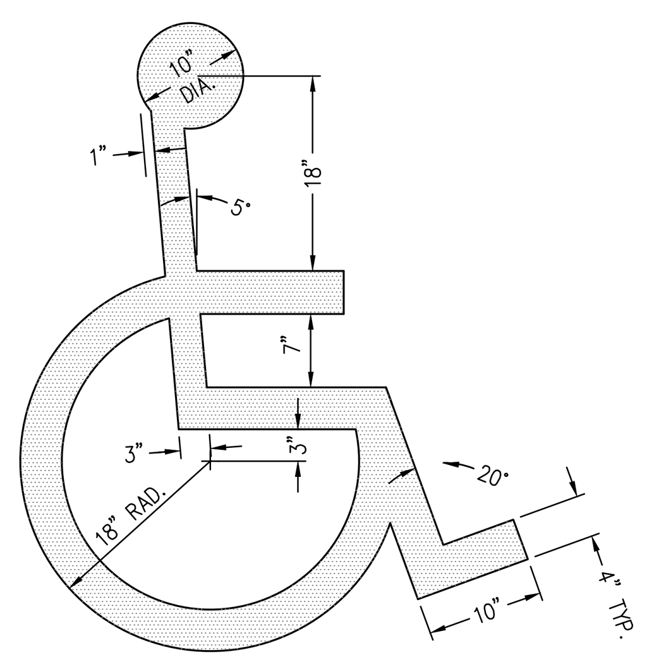


HEAVY DUTY ASPHALT PAVEMENT SECTION (K1)
NOT TO SCALE

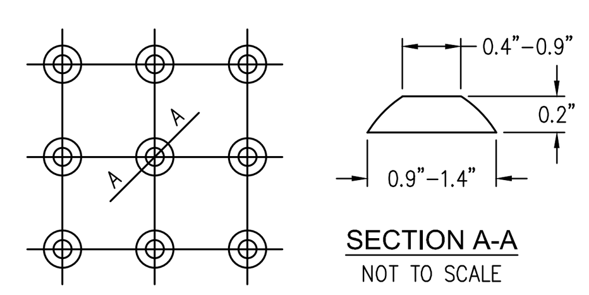


ASPHALT PAVEMENT PATCH SECTION (K2)
NOT TO SCALE

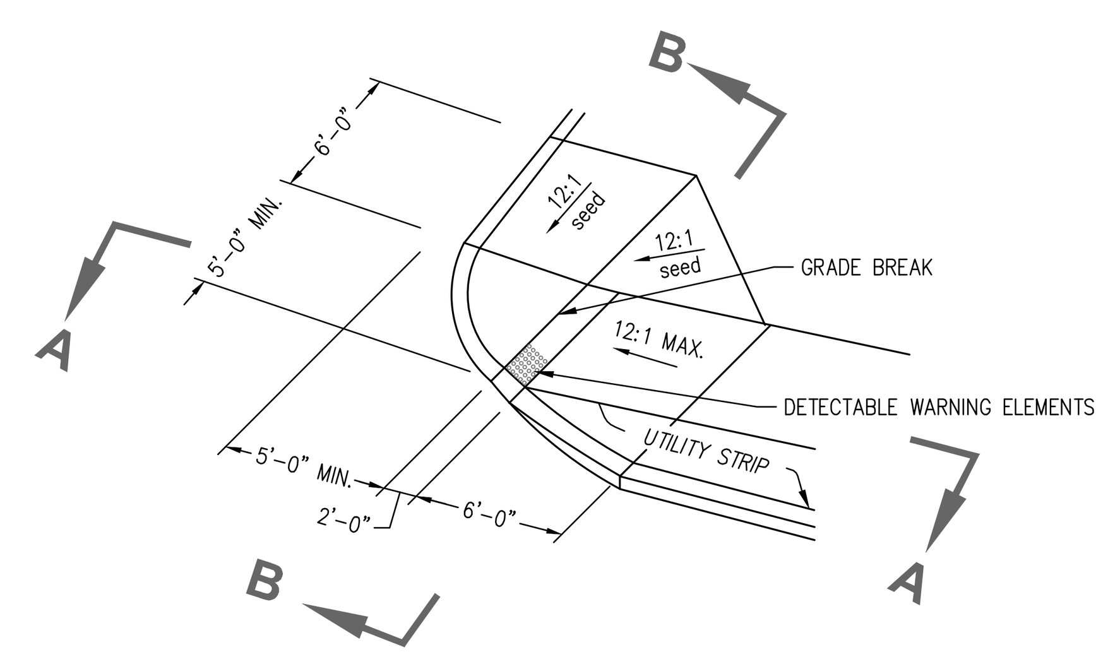
NOTES:
1. ALL STRIPES TO BE 4" (INCHES) PAINTED BLUE
2. THE HANDICAP PARKING SYMBOL SHALL MEET CURRENT ADA REQUIREMENTS



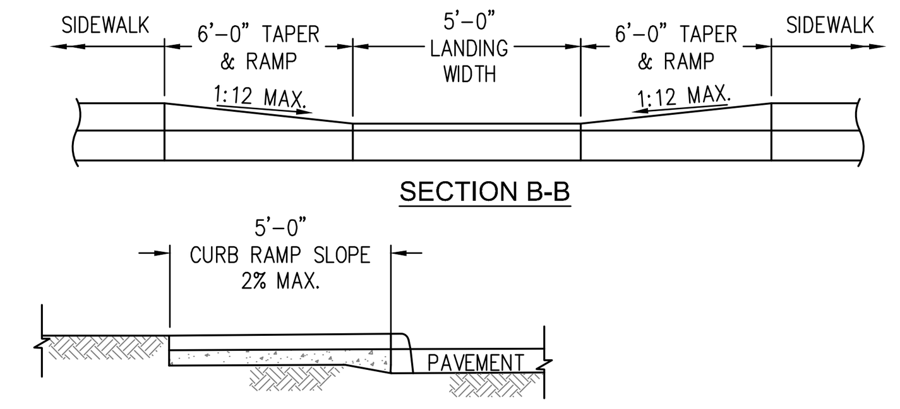
HANDICAP PARKING SYMBOL DETAIL (3)
NOT TO SCALE

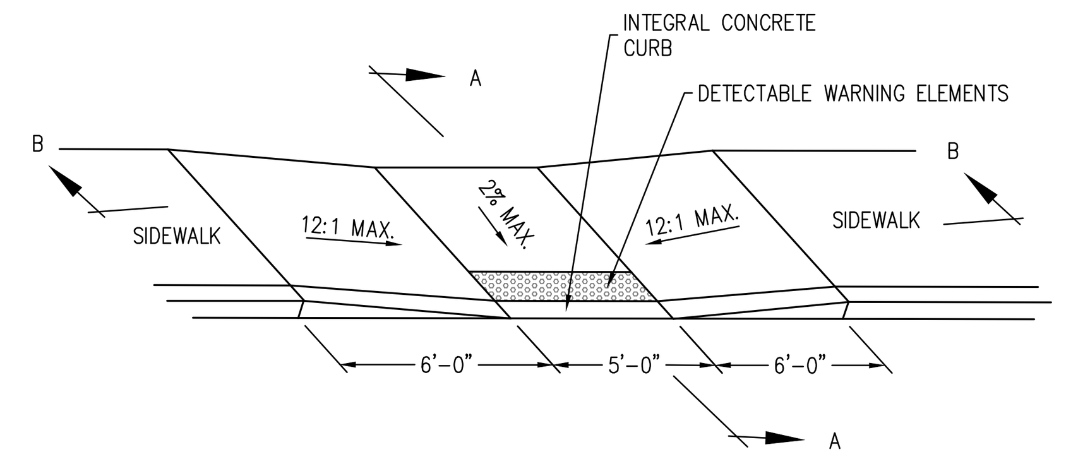


TRUNCATED DOMES USED IN DETECTABLE WARNINGS
NOT TO SCALE

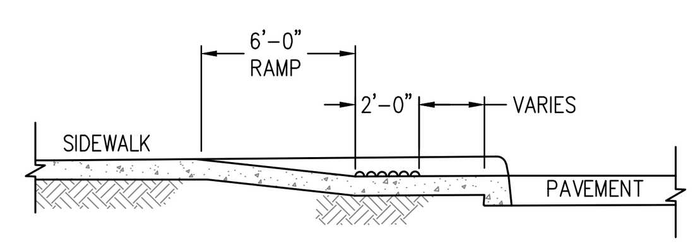


ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP (F)
NOT TO SCALE

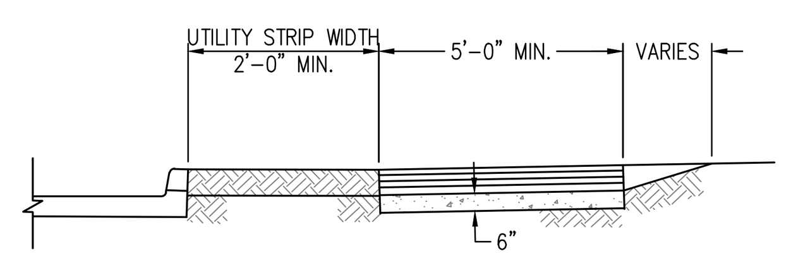




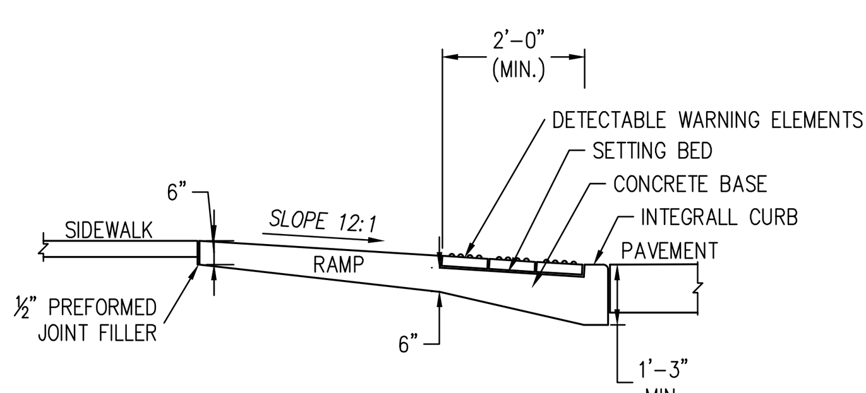
PARALLEL CURB RAMP (F)
NOT TO SCALE



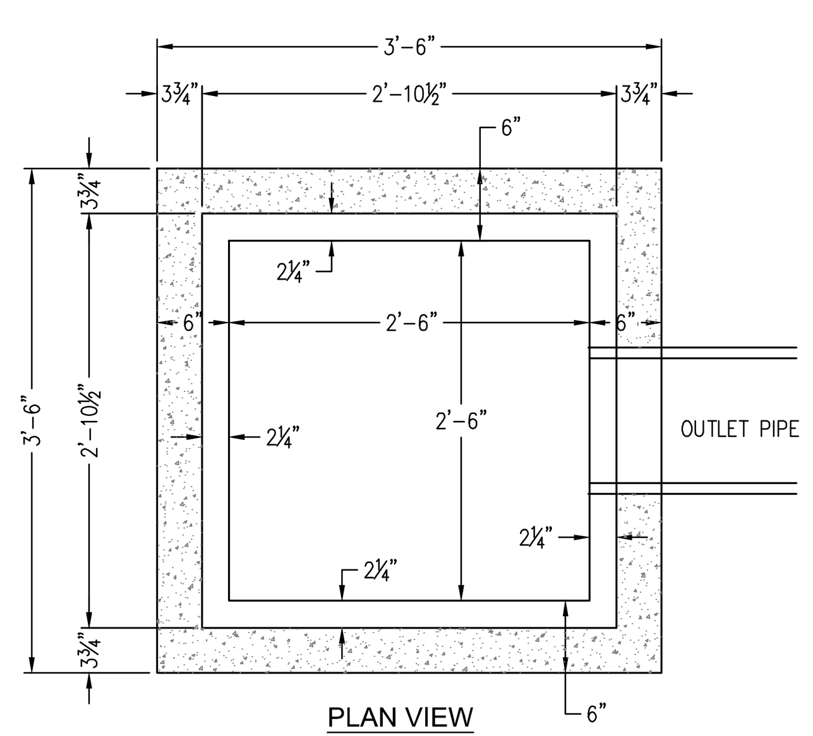
SECTION A-A
NOT TO SCALE

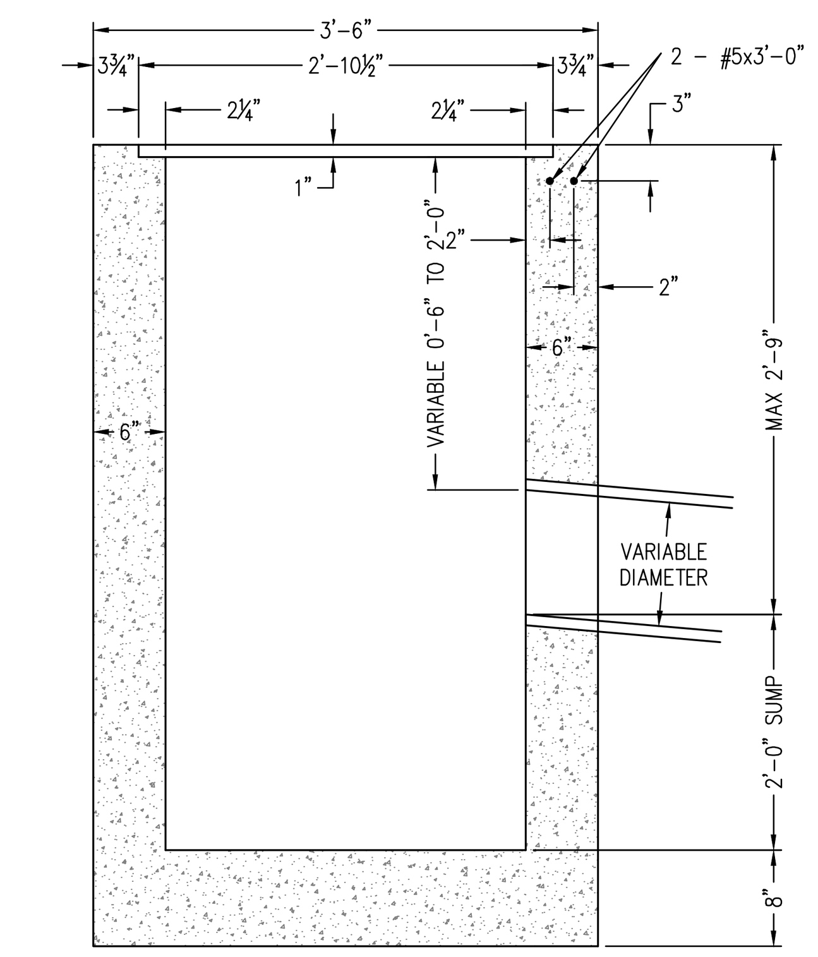


SECTION B-B
NOT TO SCALE

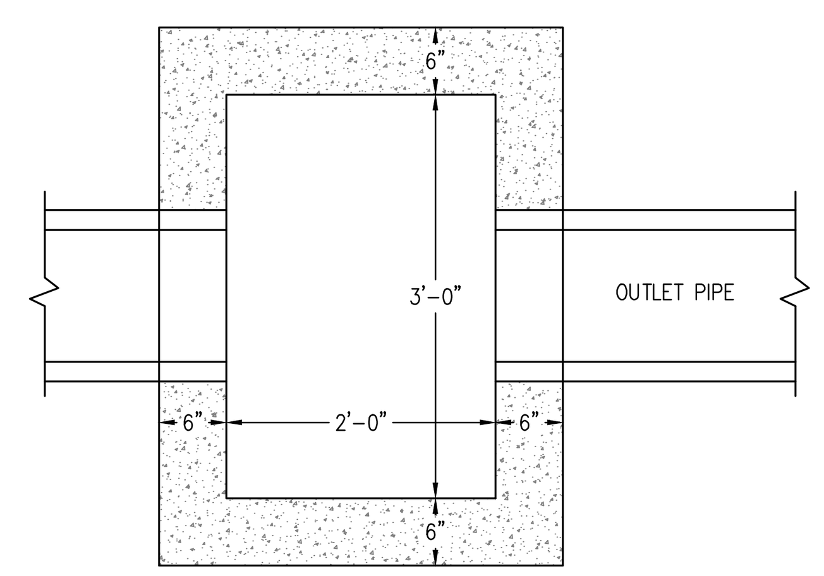


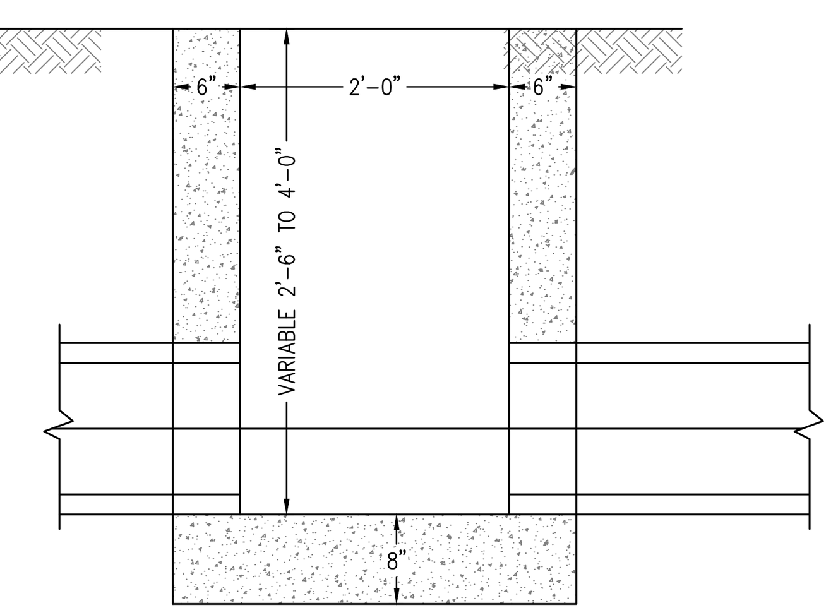
ADA RAMP CONSTRUCTION DETAIL
NOT TO SCALE



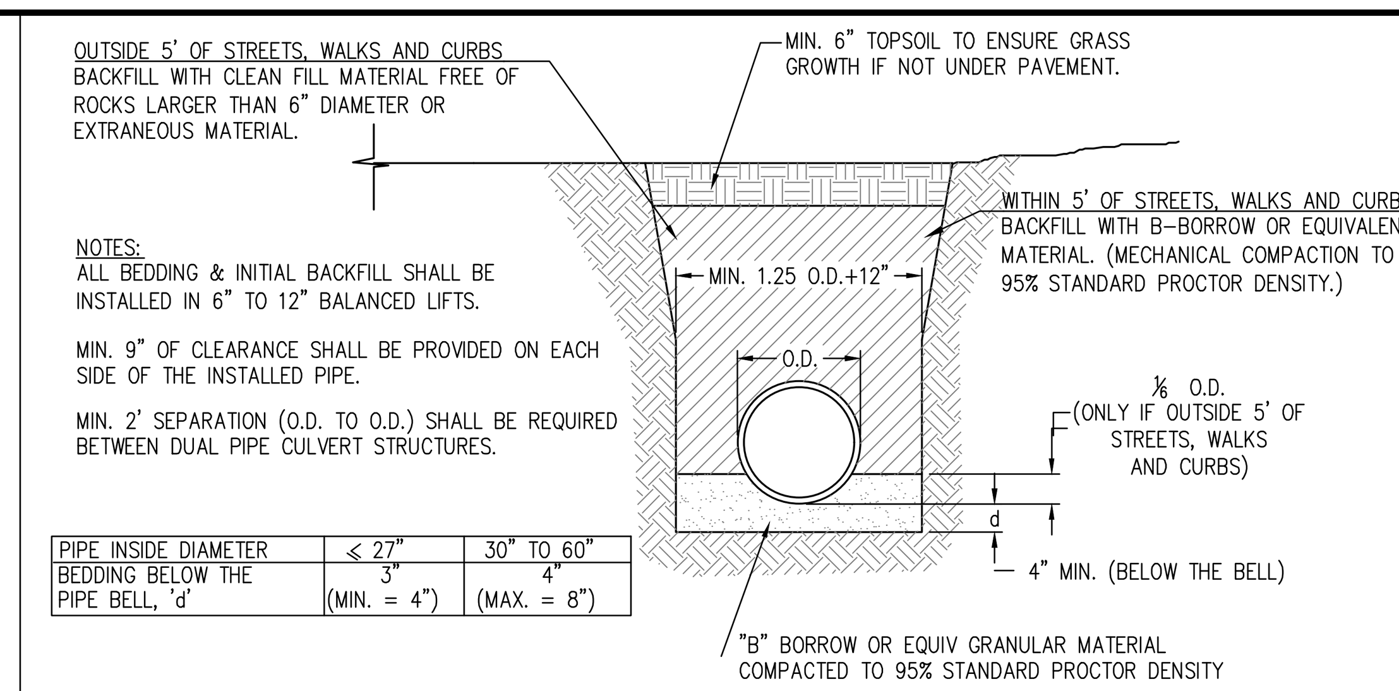


ELEVATION VIEW
INLET TYPE 'E'
NOT TO SCALE



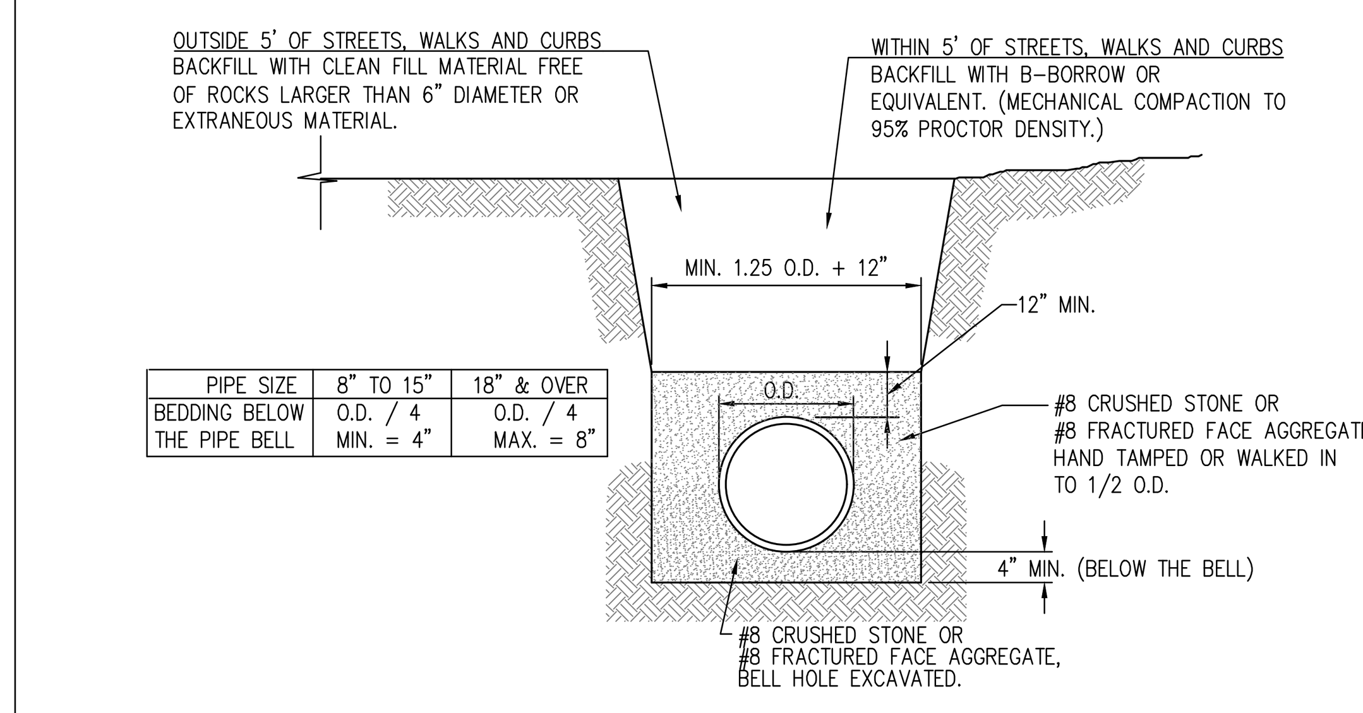


ELEVATION VIEW
INLET TYPE 'M'
NOT TO SCALE



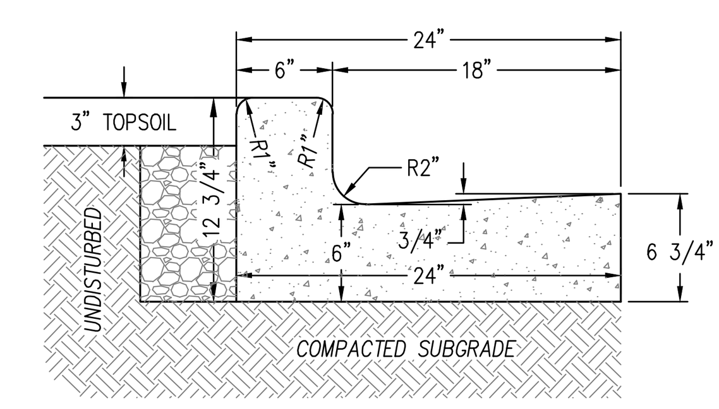
PIPE INSIDE DIAMETER	≤ 27"	30" TO 60"
BEDDING BELOW THE PIPE BELL, 'd'	3" (MIN. = 4")	4" (MAX. = 8")

RIGID PIPE BEDDING DETAIL
RCP AND VCP PIPE
NOT TO SCALE

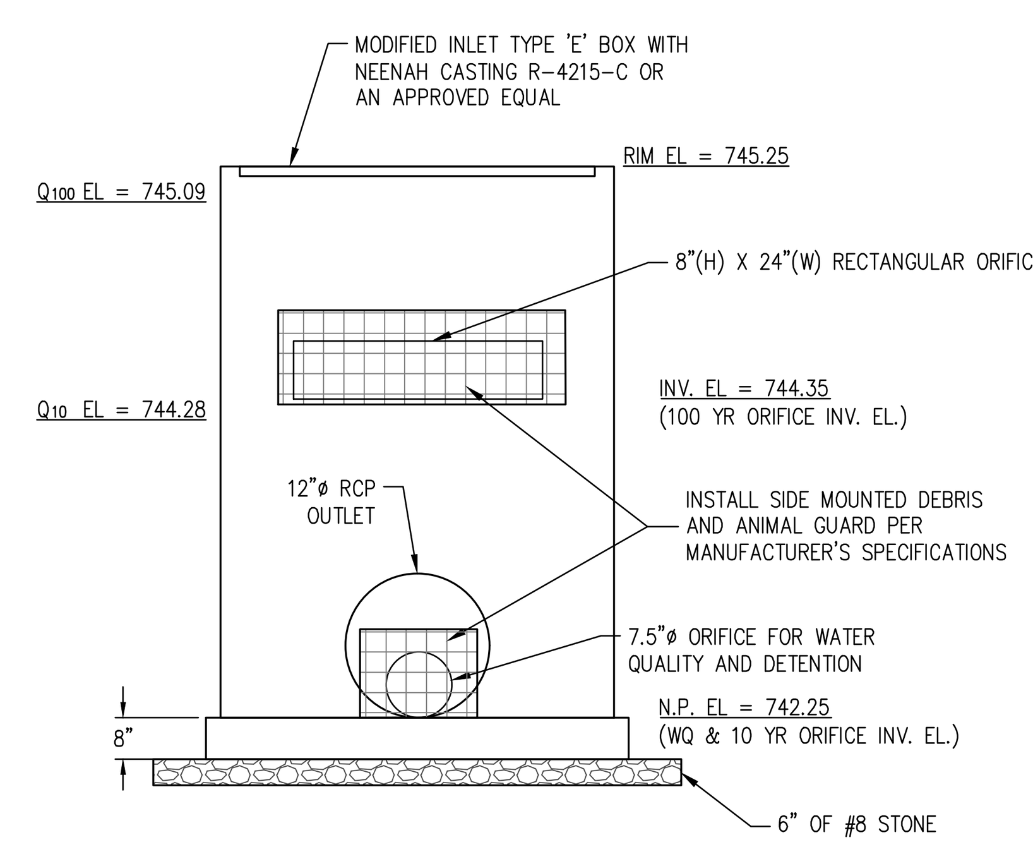


PIPE SIZE	8" TO 15"	18" & OVER
BEDDING BELOW THE PIPE BELL	O.D. / 4 MIN. = 4"	O.D. / 4 MAX. = 8"

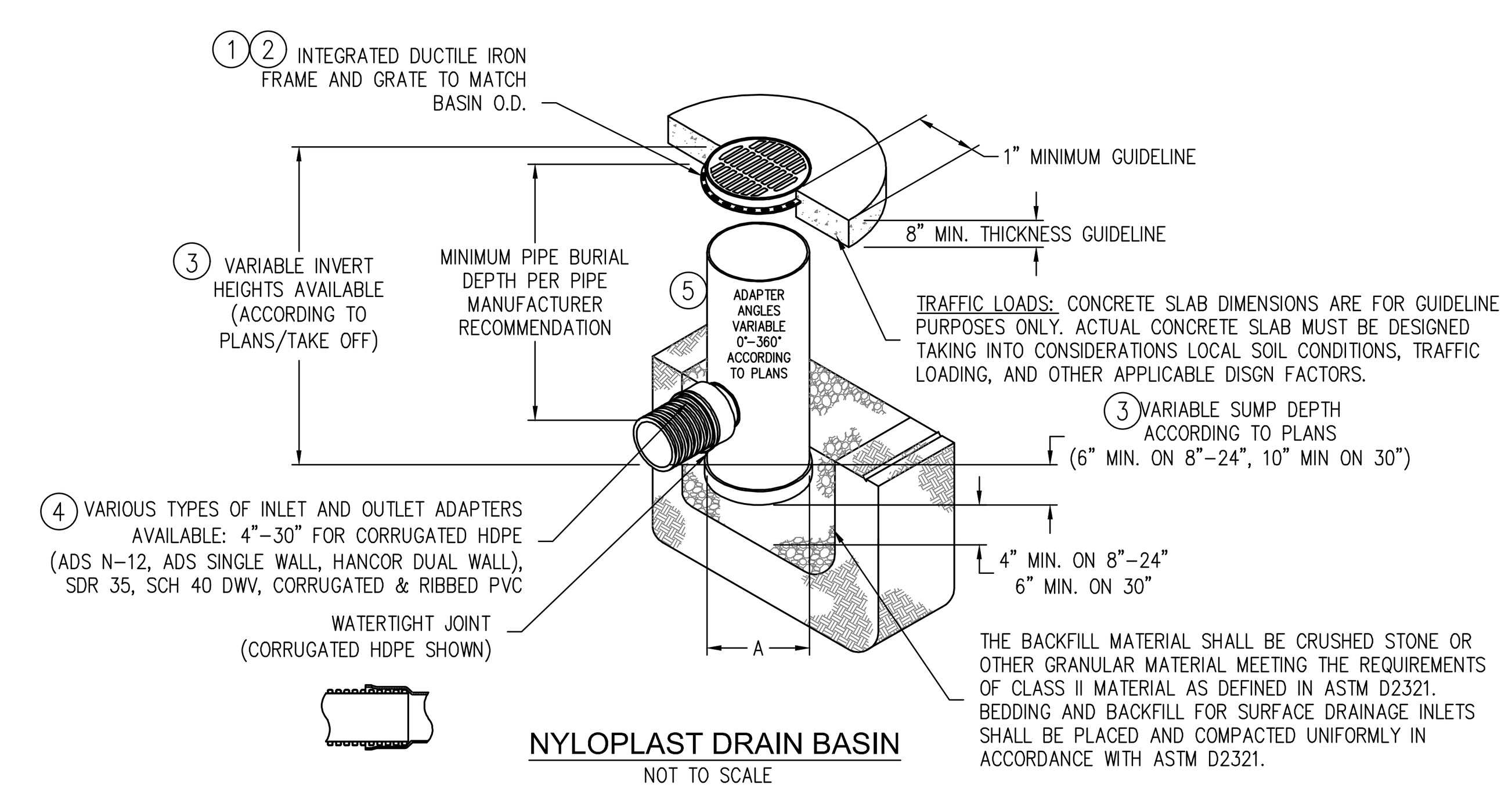
FLEXIBLE PIPE BEDDING DETAIL
PVC AND HDPE PIPE
NOT TO SCALE



CONCRETE CURB AND GUTTER (C1)
NOT TO SCALE



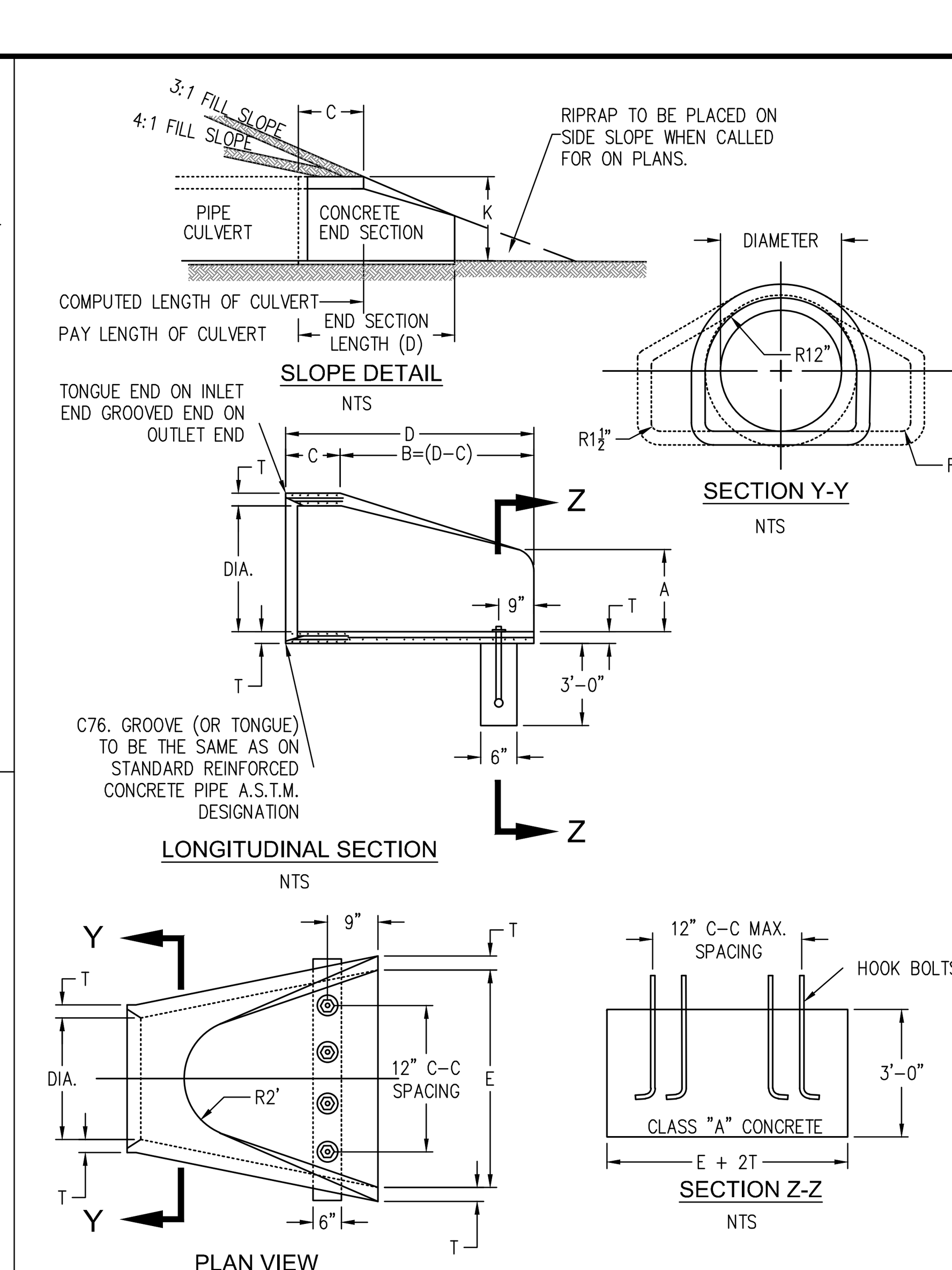
OUTLET STRUCTURE (STR. #1) DETAIL
NOT TO SCALE



NYLOPLAST DRAIN BASIN
NOT TO SCALE

1. 8"–30" GRATED/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05, WITH THE EXCEPTION OF THE 8"–15" BRONZE GRATES.
2. 12"–30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05
3. DRAIN BASIN TO BE CUSTOM/MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS.
4. DRAINAGE CONNECTIONS STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D32112 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°.
6. GRATES SHALL MEET H–10 LOAD RATING FOR 12"–24" PED
7. GRATES SHALL MEET H–20 LOAD RATING FOR 30" PED & 12"–30" STD & SOLID
8. ALL BRONZE GRATES, DROP IN GRATES, & 8" & 10" PED/STD GRATES & SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY
9. DOME GRATES HAVE NO LOAD RATING

A	PART #	GRATE OPTIONS					
8"	2808AG	PEDESTRIAN/STANDARD		SOLID	BRONZE	DOME	DROP IN
10"	2810AG	PEDESTRIAN/STANDARD		SOLID	BRONZE	DOME	DROP IN
12"	2812AG	PEDESTRIAN	STANDARD	SOLID	BRONZE	DOME	DROP IN
15"	2815AG	PEDESTRIAN	STANDARD	SOLID	BRONZE	DOME	DROP IN
18"	2818AG	PEDESTRIAN	STANDARD	SOLID	N/A	DOME	DROP IN
24"	2824AG	PEDESTRIAN	STANDARD	SOLID	N/A	DOME	DROP IN
30"	2830AG	PEDESTRIAN	STANDARD	SOLID	N/A	DOME	N/A

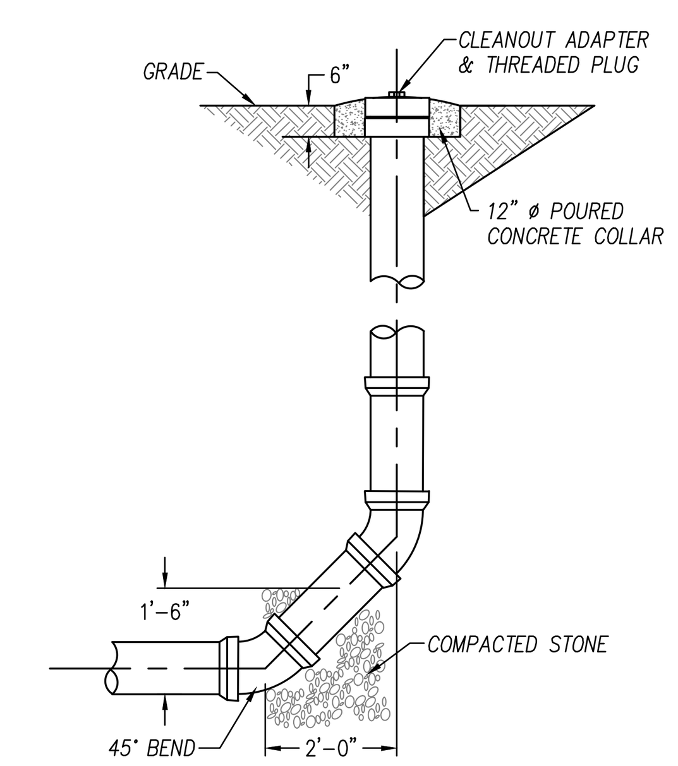


PRECAST CONCRETE END SECTION DETAIL

PRECAST CONCRETE END SECTION TABLE

DIA.	WALL	G OR	WT. SEC.	A	B	C	D	F	DIA. I I	R-1	SKIRT
12	2	1 ½	530	4	24	48 ⅞	72 ⅞	24	13	10 1/16	3 ½
15	2 ¼	2	740	6	27	46	73	30	16	12 ½	3 ½
18	2 ½	2 ½	990	9	27	46	73	36	19	15 ½	4
21	2 ¼	2 ¼	1280	9	35	38	73	42	22	16 ⅛	4
24	2 ½	2 ½	1520	9 ½	43 ½	30	73 ½	48	25	16 11/16	4 ½
27	2 ½	2 ½	1930	10 ½	48	25 ½	73 ½	54	28	17 ¾	4 ½
30	3	3	2190	12	54	19 ¾	73 ¾	60	31	18 5/16	5
33	3 ⅜	3 ⅜	3150	13 ½	58 ½	39 ¼	97 ¾	66	34	23 ¾	5 ½
36	3 ½	3 ½	4100	15	63	34 ¾	97 ¾	72	37	24 1/16	5 ½
42	3 ¾	3 ¾	5380	21	63	35	98	78	43	27 ¼	5 ½
46	4 ¼	4 ¼	6550	24	72	26	98	84	49	28 ⅛	5 ¾
54	4 ¾	4 ¾	8040	27	65	35	100	90	55	32 ⅞	6 ¼
60	5	5	8750	30	60	39	99	96	61	36 ¾	6 ¾
66	5 ½	5 ½	10630	24	78	21	99	102	67	35 11/16	7 ¼
72	6	6	12520	34	78	21	99	108	73	38 ⅝	7 ¾
78	6 ½	6 ½	14430	24	78	21	99	114	79	41 15/16	8 ½
84	7	7	16350	24	78	21	99	120	85	44 13/16	9

NOTES:
1. MANUFACTURE OF END SECTION IS IN ACCORDANCE WITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.



STANDARD CLEANOUT DETAIL
NOT TO SCALE

MISCELLANEOUS DETAILS

MARRIOTT FAIRFIELD INN & SUITES

JOB NO. - | DATE SEPTEMBER 15, 2017 | DRAWN KLF/LMC | DESIGNED DMS | CHECKED TEN | APPR. GJI

DEREK M. SNYDER REGISTERED NO. 11200008 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS: NO. | DATE | BY | APPR.

SHEET 800

DIRECTORY PATH : R:\Active\Hotel Development Services, LLC\Design\CAD\Plans
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DATE/USER : 9/15/2017 8:53 AM / LCOX

EARTHWORK

1. SCOPE OF WORK

A. EXTENT: THE WORK REQUIRED UNDER THIS SECTION CONSISTS OF ALL EXCAVATING, FILLING, ROUGH GRADING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THE PLANS OR IN THE FIELD, BEFORE WORK IS STARTED OR RESUMED.

1. IN GENERAL, THE ITEMS OF WORK TO BE PERFORMED UNDER THIS SECTION SHALL INCLUDE CLEARING AND GRUBBING, REMOVAL OF TREES AND STUMPS, STRIPPING AND STORAGE OF TOPSOIL, FILL COMPACTION AND ROUGH GRADING OF ENTIRE SITE. ALL TREES SHALL BE REMOVED UNLESS OTHERWISE NOTED IN PLANS OR DIRECTED BY OWNER.
2. EXCAVATED MATERIAL THAT IS SUITABLE MAY BE USED FOR FILLS. ALL UNSUITABLE MATERIAL AND ALL SURPLUS EXCAVATED MATERIAL NOT REQUIRED SHALL BE REMOVED FROM THE SITE. THE LOCATION OF DUMP AND LENGTH OF HAUL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
3. PROVIDE AND PLACE ANY ADDITIONAL FILL MATERIAL FROM OFF THE SITE AS NECESSARY TO PRODUCE THE GRADES REQUIRED. FILL OBTAINED FROM OFF SITE SHALL BE OF KIND AND QUALITY AS SPECIFIED FOR FILLS HEREIN AND THE SOURCE APPROVED BY THE OWNER.
4. THE CONTRACTOR SHALL ACCEPT THE SITE AS HE FINDS IT AND SHALL REMOVE ALL TRASH, RUBBISH AND DEBRIS FROM THE SITE PRIOR TO STARTING EXCAVATION

2. BENCHMARK

A. MAINTAIN CAREFULLY ALL BENCH MARKS, MONUMENTS AND OTHER REFERENCE POINTS; IF DISTURBED OR DESTROYED, CONTRACTOR SHALL CONTACT ENGINEER.

3. REMOVAL OF TREES

A. THE INTEGRITY OF THE TOPOGRAPHIC FEATURES (INCLUDING TREES) SHALL BE PERSEVERED AS MUCH AS POSSIBLE THE CONTRACTOR SHALL COORDINATE WITH OWNER AND/OR ENGINEER PRIOR TO CLEARING THE SITE FOR CONSTRUCTION.

B. ALL BRUSH, STUMPS, WOOD AND OTHER REFUSE FROM THE TREES REMOVED SHALL BE HAULED TO DISPOSAL AREAS OFF OF THE SITE. DISPOSAL BY BURNING SHALL NOT BE PERMITTED UNLESS PROPER PERMITS ARE OBTAINED (WHERE APPLICABLE).

4. HANDLING OF TOPSOIL

A. REMOVE ALL ORGANIC MATERIAL FROM THE AREAS TO BE OCCUPIED BY BUILDINGS, ROADS, WALKS AND PARKING AREAS. PILE AND STORE TOPSOIL AT A LOCATION WHERE IT WILL NOT INTERFERE WITH CONSTRUCTION OPERATIONS. TOPSOIL SHALL BE REASONABLY FREE OF SUBSOIL, DEBRIS, WEEDS, GRASS, STONES, ETC.

B. AFTER COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED ON THE EROSION CONTROL PLAN FOR SEEDING AND/OR SODDING. ANY REMAINING TOPSOIL SHALL BE USED FOR FINISHED GRADING AROUND STRUCTURES AND LANDSCAPING AREAS.

5. DISPOSITION OF UTILITIES

A. RULES AND REGULATIONS GOVERNING THE RESPECTIVE UTILITIES SHALL BE OBSERVED IN EXECUTING ALL WORK UNDER THIS SECTION.

B. IF ACTIVE UTILITIES ARE ENCOUNTERED BUT NOT SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE ADVISED BEFORE WORK IS CONTINUED.

C. INACTIVE AND ABANDONED UTILITIES ENCOUNTERED IN EXCAVATING AND GRADING OPERATIONS SHALL BE REPORTED TO THE ENGINEER. THEY SHALL BE REMOVED, PLUGGED OR CAPPED AS DIRECTED BY THE UTILITY COMPANY OR THE ENGINEER.

D. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF THE WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED.

6. SITE GRADING

A. GRADES: CONTRACTOR SHALL PERFORM ALL CUTTING, FILLING, COMPACTING OF FILLS AND ROUGH GRADING REQUIRED TO BRING ENTIRE PROJECT AREA TO GRADE AS SHOWN ON THE DRAWINGS.

B. ROUGH GRADING: THE TOLERANCE FOR PAVED AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS ABOVE THE ESTABLISHED SUBGRADE. ALL OTHER AREAS SHALL NOT EXCEED 0.10 FEET PLUS OR MINUS THE ESTABLISHED GRADE. ALL BANKS AND OTHER BREAKS IN GRADE SHALL BE ROUNDED AT THE TOP AND BOTTOM.

C. COMPACTION REQUIREMENTS:

1. ALL BUILDING PAD AREAS SHALL BE COMPACTED TO STANDARDS SPECIFIED BY LOCAL AND/OR STATE BUILDING CODES.
2. COMPACTION REQUIREMENTS OF PAVED AREAS SHALL BE 95% OF MAXIMUM DRY DENSITY.

7. EARTH WORK BALANCE

A. THE CONTRACTOR SHALL CONFIRM ALL EARTHWORK QUANTITIES PRIOR TO START OF CONSTRUCTION. IF AN EXCESS OR SHORTAGE OF EARTH IS ENCOUNTERED, THE CONTRACTOR SHALL CONFIRM WITH THE OWNER AND ENGINEER THE REQUIREMENTS FOR STOCKPILING, REMOVAL OR IMPORTING OF EARTH.

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

STREETS

1. SCOPE OF WORK

A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL CONCRETE AND BITUMINOUS PAVING AND RELATED ITEMS NECESSARY TO COMPLETE THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:

1. ALL STREETS, PARKING AREAS WITHIN THE CONTRACT LIMITS.
2. CURBS AND CONCRETE RAMPS.
3. SIDEWALKS AND CONCRETE SLABS.

A. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.

2. PAVEMENT CONSTRUCTION

A. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND CONFORM TO THE MINIMUM STANDARDS OF THE CITY OF FRANKLIN AND ENGINEERING DEPARTMENTS, AND IF THERE ARE AREAS UNDEFINED USE THE CURRENT I.N.D.O.T. STANDARDS SPECIFICATIONS, AS REVISED.

B. FLEXIBLE PAVEMENT

1. MATERIALS

A. GENERAL: USE LOCALLY AVAILABLE MATERIALS AND GRADATIONS WHICH EXHIBIT A SATISFACTORY RECORD OF PREVIOUS INSTALLATIONS.

B. COMPACTED AGGREGATE BASE: SOUND, ANGULAR CRUSHED LIMESTONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED OR PROCESSED AIR-COOLED BLAST FURNACE SLAG. COURSE AGGREGATE SHALL BE CLASS A, TYPE "O" AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.

C. BASE COURT AGGREGATE: SOUND, ANGULAR CRUSHED STONE, CRUSHED OR UNCRUSHED GRAVEL, OR CRUSHED SLAG, SAND, STONE, OR SLAG SCREENINGS. COARSE AGGREGATES SHALL BE CLASS A OR B AND CONFORM TO I.N.D.O.T. STANDARDS SPECIFICATIONS SECTION 903.

D. COARSE AGGREGATE FOR SURFACE AND BINDER MIXTURES: CRUSHED STONE, CRUSHED GRAVEL, CRUSHED SLAB, AND SHARP EDGED NATURAL SAND. SURFACE COARSE AGGREGATES SHALL BE CLASS A AND CONFORM TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.

E. ASPHALT CEMENT: PETROLEUM ASPHALT CEMENT, AP 5 WITH PENETRATION OF 60-70 OR VISCOSITY GRADED ASPHALT CEMENT AC-20 CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 903.

F. PRIME COAT: MEDIUM-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 408.

G. TACK COAT: RAPID-CURE LIQUID ASPHALT OR ASPHALT EMULSION CONFORMING TO I.N.D.O.T. STANDARD SPECIFICATIONS SECTION 409.

H. LANE MARKING PAINT: CHLORINATED RUBBER-ALKYD TYPE, AASHTO M248 (FS TT-P-115), TYPE III.

3. ASPHALT-AGGREGATE MIXTURE

ALL BITUMINOUS MIXTURES ARE TO CONFORM TO CURRENT I.N.D.O.T. SPECIFICATIONS

A. SURFACE COURSE: HMA SURFACE 9.5mm

B. BINDER COURSE: HMA INTERMEDIATE 19.0mm

C. BASE COURSE: TYPE: HMA BASE 25.0mm

**PROVIDED A JOB MIX FORMULA FOR EACH TYPE OF ASPHALT PRIOR TO THE BEGINNING OF THE CONSTRUCTION PROJECT.

4. SURFACE PREPARATION

A. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.

I) PROOF ROLL SUBGRADE SURFACE WITH LOADED TRI-AXLE TRUCK (48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE CITY OF FRANKLIN ENGINEERING DEPT.) TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION. IF PROOF ROLL EXCEEDS MAXIMUM ¼" DEFLECTION, CONTRACTOR SHALL COORDINATE WITH ENGINEER AND CITY OF FRANKLIN TO DETERMINE IF SUBGRADE STABILIZATION IS REQUIRED.

II) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.

B. AGGREGATE BASE: AFTER PLACEMENT, PROOF ROLL COMPACTED AGGREGATE BASE SURFACE TO CHECK FOR UNSTABLE AREAS AND AREAS REQUIRING ADDITIONAL COMPACTION.

I) NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT AGGREGATE BASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.

II) REMOVE LOOSE MATERIAL FROM COMPACTED AGGREGATE BASE SURFACE IMMEDIATELY BEFORE APPLYING PRIME COAT.

5. PLACING THE MIX

A. GENERAL: PLACE BITUMINOUS AGGREGATE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF. SPREAD MIXTURE AT MINIMUM TEMPERATURE OF 225 DEGREES F.(107 DEGREES C). PLACE INACCESSIBLE AND SMALL AREAS BY HAND. PLACE EACH COURSE TO REQUIRED GRADE, CROSS-SECTION, AND COMPACTED THICKNESS.

B. BASE COURSE, COMPACTED AGGREGATE: SPREAD AND COMPACT IN TWO LIFTS AS FOLLOWS:

I) FIRST LIFT: NO. 53'S SHALL BE A MINIMUM OF 4" OR ½ THE TOTAL DEPTH OF AGGREGATE. EXTEND THE FIRS LIFT 4" OR A DISTANCE EQUAL TO THE DEPTH OF THE LIFT BEYOND THE SECOND LIFT.

II) SECOND LIFT: SIZE NO. 53

C. PRIME COAT: SUBBASE SURFACE SHALL BE PRIMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 408 OF I.N.D.O.T. STANDARD SPECIFICATIONS.

D. HOT ASPHALT CONCRETE BINDER COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTHS INDICATED ON DETAILS.

E. TACK COAT: BINDER COURSE SHALL BE TACKED PRIOR TO THE INSTALLATION OF THE SURFACE COURSE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 409 OF I.N.D.O.T. STANDARD SPECIFICATIONS.

F. SURFACE COURSE: SPREAD AND ROLL TO MINIMUM FINISH DEPTH INDICATED ON DETAILS. FINISH ELEVATION SHALL BE TRUE TO LINE AND GRADE WITHIN ½" OF TRUE ELEVATIONS.

G. PAVER PLACING: PLACE IN STRIPS NOT LESS THAN 10' WIDE, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT/ENGINEER. AFTER FIRST STRIP HAS BEEN PLACED AND ROLLED, PLACE SUCCEEDING STRIPS AND EXTEND ROLLING TO OVERLAP PREVIOUS STRIPS. COMPLETE BINDER COURSE FOR A SECTION BEFORE PLACING SURFACE COURSE.

H. JOINTS: MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN PAVER PASSES, OR BETWEEN SUCCESSIVE DAYS WORK, TO ENSURE CONTINUOUS BOND BETWEEN ADJOINING WORK. CONSTRUCT JOINTS TO HAVE SAME TEXTURE, DENSITY AND SMOOTHNESS AS OTHER SECTIONS. CLEAN CONTACT SURFACES AND APPLY TACT COAT.

6. ROLLING

A. GENERAL: BEGIN ROLLING WHEN MIXTURE WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT.

I) COMPACT MIXTURE WITH HOT HAND TAMPERS OR VIBRATING PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS.

B. BREAKDOWN ROLLING: ACCOMPLISH BREAKDOWN OR INITIAL ROLLING IMMEDIATELY FOLLOWING ROLLING OF JOINTS AND OUTSIDE EDGE. CHECK SURFACE AFTER BREAKDOWN ROLLING, AND REPAIR DISPLACED AREAS BY LOOSENING AND FILLING, IF REQUIRED, WITH HOT MATERIAL.

C. SECOND ROLLING: FOLLOW BREAKDOWN ROLLING AS SOON AS POSSIBLE, WHICH MIXTURE IS HOT. CONTINUE SECOND ROLLING UNTIL MIXTURE HAS BEEN THOROUGHLY COMPACTED.

D. FINISH ROLLING: PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH FOR REMOVAL OF ROLLER MARKS. CONTINUE ROLLING UNTIL ROLLER MARKS ARE ELIMINATED AND COURSE HAS ATTAINED MAXIMUM DENSITY.

E. PATCHING: REMOVE AND REPLACE PAVING AREAS MIXED WITH FOREIGN MATERIALS AND DEFECTIVE AREAS. CUT OUT SUCH AREAS AND FILL WITH FRESH, HOT BITUMINOUS AGGREGATE MIX. COMPACT BY ROLLING TO MAXIMUM SURFACE DENSITY AND SMOOTHNESS.

F. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.

G. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

7. TRAFFIC AND LANE MARKINGS

A. CLEANING: SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.

B. STRIPPING: USE CHLORINATED RUBBER BASE TRAFFIC LANE-MARKING PAINT, FACTORY MIXED, QUICK-DRYING, AND NON-BLEEDING.
COLOR: WHITE, BLUE

I) DO NOT APPLY TRAFFIC AND LANE MARKING PAINT UNTIL LAYOUT AND PLACEMENT HAS BEEN VERIFIED WITH ARCHITECT/ENGINEER.

II) APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. APPLY IN TWO COATS AT MANUFACTURER'S RECOMMENDED RATES.

8. FIELD QUALITY CONTROL

A. TESTING AND INSPECTION SERVICE:

I) OWNER SHALL EMPLOY A TESTING LABORATORY TO PERFORM PAVEMENT TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL DURING PAVING OPERATIONS.

II) TESTING SERVICE SHALL HAVE REPRESENTATIVE PRESENT TO OBSERVE AND PERFORM TESTS AT ALL TIMES PAVING WORK IS IN PROGRESS.

B. GENERAL: TESTING SERVICE REPRESENTATIVE SHALL TAKE A MINIMUM OF TWO SAMPLES PER LIFT OF BITUMINOUS AGGREGATE MIX EACH DAY BEFORE PAVING OPERATION. LABORATORY TEST SHALL BE PERFORMED ON THESE SAMPLES TO DETERMINE AGGREGATE GRADATION AND ASPHALT CONTENT.

I) TEST IN-PLACE COMPACTED BITUMINOUS AGGREGATE MIX COURSES FOR COMPLIANCE WITH REQUIREMENTS FOR THICKNESS, DENSITY AND AIR VOIDS AND SURFACE SMOOTHNESS. REPAIR OR REMOVE AND REPLACE UNACCEPTABLE PAVING AS DIRECTED BY ENGINEER.

II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY FOR THE REMAINDER OF THE PAVEMENT.

C. THICKNESS: IN-PLACE COMPACTED THICKNESS WILL NOT BE ACCEPTABLE IF EXCEEDING FOLLOWING ALLOWABLE VARIATION FROM REQUIRED THICKNESS:

AGGREGATE BASE COURSE: ½", PLUS OR MINUS
BASE COURSE: ½", PLUS OR MINUS
BINDER COURSE: ¼", PLUS OR MINUS
SURFACE COURSE: ¼", PLUS OR MINUS

I) A MINIMUM OF TWO PAVEMENT CORES PER COMPACTED LIFT SHALL BE TAKEN. CORES ARE TO BE TAKEN AT LOCATIONS AND AT TIMES OF DAY AS DIRECTED BY THE TESTING SERVICE. THE FOLLOWING TESTS SHALL BE PERFORMED BY THE TESTING SERVICE, ON EACH PAVEMENT CORE:

II) A TEST SECTION AT A MINIMUM SIZE OF 100'X12' SHALL BE PLACED AT A LOCATION AS DIRECTED BY THE COUNTY PRIOR TO FULL PRODUCTION FOR EACH TYPE OF MIX. THE TEST SECTION SHALL BE COMPACTED TO DETERMINE A TARGET DENSITY OF THE REMAINDER OF THE PAVEMENT.

D. PAVEMENT THICKNESS
DENSITY
AIR VOIDS

I) TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ARCHITECT/ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE, WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.

II) PAVEMENT WHICH FAILS TO COMPLY WITH APPROVED JOB MIX FORMULA SHALL BE REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.

E. SURFACE SMOOTHNESS: TEST FINISHED SURFACE FOR SMOOTHNESS, USING 10' STRAIGHTEDGE APPLIED PARALLEL WITH, AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE WILL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.

AGGREGATE BASE COURSE SURFACE:1/4"
BASE COURSE SURFACE: 1/4"
BINDER COURSE SURFACE: 1/8"
WEARING COURSE SURFACE: 1/8"

I) CHECK SURFACED AREAS AT INTERVALS AS DIRECTED BY TESTING SERVICE.

F. DENSITY TESTS: DENSITY TESTS SHALL BE MADE AT EACH LIFT. TEST SHALL BE AS FOLLOWS:

I) TESTS WILL BE REQUIRED AT VARIOUS TIMES AND LOCATIONS FOR SUBGRADE AND BASE COURSES FOR ASPHALT PAVING AREAS.

G. TESTING SERVICE SHALL SUBMIT CERTIFIED RESULTS TO THE OWNER AND ENGINEER WITHIN 72 HOURS AFTER TESTS ARE MADE WITH THEIR COMMENTS AND RECOMMENDATIONS FOR ACTION.

I) SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH I.N.D.O.T. STANDARD SPECIFICATIONS, SECTION 207 AND SUBSECTION 501.07. NO TRAFFIC SHALL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.

II) SEE SITE GRADING, UNDER THE 'EARTHWORK' SECTION FOR ADDITIONAL COMPACTION REQUIREMENTS.

9. APPLICATION

A. GRADING: DO ANY NECESSARY GRADING IN ADDITION TO THAT PERFORMED IN ACCORDANCE WITH EARTHWORK SECTION TO BRING SUBGRADES, AFTER FINAL COMPACTION, TO THE REQUIRED GRADES AND SECTIONS FOR SITE IMPROVEMENTS.

B. PREPARATION OF SUBGRADE: REMOVE SPONGY AND OTHERWISE UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL. NO TRAFFIC WILL BE ALLOWED ON PREPARED SUBGRADE PRIOR TO PAVING.

C. COMPACTION OF SUBGRADE: THE FIRST 6 INCHES BELOW THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROVISIONS OF AASHO T-99. WATER SHALL BE PREVENTED FROM STANDING ON THE COMPACTED SUBGRADE.

D. UTILITY STRUCTURES: CHECK FOR CORRECT ELEVATION OF ALL MANHOLE COVERS, VALVE BOXES AND SIMILAR STRUCTURES LOCATED WITHIN AREAS TO BE PAVED, AND MAKE, OR HAVE MADE, ANY NECESSARY ADJUSTMENTS IN SUCH STRUCTURES.

E. PLACING CONCRETE

1. SUBGRADE: PLACE CONCRETE ONLY ON A MOIST, COMPACTED SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON A MUDDY OR FROZEN SUBGRADE.
2. FORMS: ALL FORMS SHALL BE FREE FROM WARP, TIGHT ENOUGH TO PREVENT LEAKAGE AND SUBSTANTIAL ENOUGH TO MAINTAIN THEIR SHAPE AND POSITION WITHOUT SPRINGING OR SETTLING, WHEN CONCRETE IS PLACED. FORMS SHALL BE CLEAN AND SMOOTH IMMEDIATELY BEFORE CONCRETING.
3. PLACING CONCRETE: CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICABLE. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F. OR LESS, PARAGRAPH 702.10 OF THE I.N.D.O.T. SPECIFICATIONS LATEST REVISIONS SHALL BE FOLLOWED.

F. CONCRETE CURB

1. EXPANSION JOINTS: SHALL BE 1/2 INCH THICK PREMOULDED AT ENDS OF ALL RETURNS AND AT A MAXIMUM SPACING OF 100 FEET.
2. CONTRACTION JOINTS UNLESS OTHERWISE PROVIDED, CONTRACTION JOINTS SHALL BE SAWED JOINTS SPACED 10 FEET ON CENTER.
3. FINISH: TAMP AND SCREED CONCRETE AS SOON AS PLACED, AND FILL ANY HONEY COMBED PLACES. FINISH SQUARE CORNERSTONE 1/4 INCH RADIUS AND OTHER CORNERS TO RADII SHOWN.

G. CONCRETE WALKS AND EXTERIOR STEPS

1. SLOPES: PROVIDE ¼ INCH PER FOOT CROSS SLOPE. MAKE ADJUSTMENTS ON SLOPES AT WALK INTERSECTIONS AS NECESSARY TO PROVIDE PROPER DRAINAGE.
2. DIMENSIONS: WALKS AND STEPS SHALL BE ONE COURSE CONSTRUCTION AND OF WIDTHS AND DETAILS SHOWN ON THE DRAWINGS.
3. FINISH: SCREED CONCRETE AND TROWEL WITH A STEEL TROWEL TO A HARD DENSE SURFACE AFTER SURFACE WATER HAS DISAPPEARED. APPLY MEDIUM BROOM FINISH AND SCRIBE TRANSVERSE JOINTS AT 6 FOOT SPACING. PROVIDE ½ INCH EXPANSION JOINTS WHERE SIDEWALKS INTERSECT, AND AT A MAXIMUM SPACING OF 48 FEET BETWEEN EXPANSION JOINTS.

H. CURING CONCRETE FOR WALKS AND CURBS: EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN SECTION 501.17 OF THE I.N.D.O.T. SPECIFICATIONS, LATEST REVISION.

I. BITUMINOUS PAVEMENT: HOT MIX ASPHALT PAVEMENT SHALL BE AS SPECIFIED IN SECTION 402 OF THE I.N.D.O.T. SPECIFICATIONS LATEST REVISIONS. PAVING WILL NOT BE PERMITTED DURING UNFAVORABLE WEATHER OR THEN THE TEMPERATURE IS 40 DEGREES F. AND FALLING.

J. COMPACTED AGGREGATE SUBBASE: THE THICKNESS SHOWN ON THE DRAWINGS IS THE MINIMUM THICKNESS OF THE FULL COMPACTED SUBBASE. COMPACTION SHALL BE ACCOMPLISHED BY ROLLING WITH A SMOOTH WHEELED ROLLER WEIGHING 8 TO 10 TONS. COMPACT TO 95% COMPACTION USING STANDARD TESTING PROCEDURES. ALONG CURBS, HEADERS AND WALLS AND AT ALL PLACES NOT ACCESSIBLE TO THE ROLLER, THE AGGREGATE MATERIAL SHALL BE TAMPED WITH MECHANICAL TAMPERS OR WITH APPROVED HAND TAMPERS.

K. CONCRETE RAMPS

1. CONCRETE RAMPS FOR THE DISABLED SHALL BE REQUIRED AS SPECIFIED IN THE PLANS AND SHALL CONFORM WITH CURRENT SPECIFICATIONS ESTABLISHED BY THE AMERICAN DISABILITIES ACT (ADA), SECTION 4.7, "CURB RAMPS."
2. THE CONCRETE RAMP SHALL BE FLUSH AND FREE OF ABRUPT CHANGES WITH SIDEWALKS, GUTTERS OR STREETS, AND PROVIDE A MAXIMUM SLOPE OF 1:12.
3. THE MINIMUM WIDTH OF A CONCRETE RAMP SHALL BE (48) INCHES EXCLUSIVE OF FLARED SIDES.
4. SIDES OF CONCRETE RAMPS SHALL HAVE FLARED SIDES AS SHOWN IN THE PLANS.

STORM SEWER SYSTEMS

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL STORM SEWERS, STORM WATER INLETS, AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.

B. IN THE CASE OF ANY CONFLICTS WITH THESE SPECIFICATIONS AND LOCAL, STATE, FEDERAL SPECIFICATIONS THE MORE STRINGENT SHALL APPLY.

2. STORM SEWER CONSTRUCTION

A. STORM SEWERS

1. STORM SEWER STRUCTURES SHALL COMPLY WITH CURRENT SPECIFICATIONS OF THE CITY OF FRANKLIN PLANNING AND ALL OTHER RESPONSIBLE AGENCIES IN RESPECT TO DESIGN AND QUALITY OF CONSTRUCTION.
2. ALL STORM SEWER CONSTRUCTION INSIDE PUBLIC RIGHT-OF-WAY, EITHER EXISTING OR TO BE DEDICATED, SHALL BE IN ACCORDANCE WITH THE MOST CURRENT I.N.D.O.T. STANDARD SPECIFICATION.
3. WHERE REINFORCED CONCRETE PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE IN ACCORDANCE WITH A.S.T.M. C-76 CLASS III WALL "B" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. WHERE CORRUGATED METAL PIPE IS SHOWN ON THE CONSTRUCTION PLANS, IT SHALL BE 14 GAUGE ALUMINIZED UNLESS OTHERWISE SPECIFIED AND SHALL HAVE THE CONNECTING BANDS AND SEALS AS SPECIFIED BY THE MANUFACTURER. C.M.P. SHALL BE ALUMINIZED PIPE IN ACCORDANCE WITH A.S.T.M. A-444.
5. MANHOLES, CATCH BASINS AND INLETS SHALL BE PRECAST CONCRETE. USE OF BRICK OR BLOCK WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE ENGINEER AND APPROVED IN WRITING BY THE CITY OF FRANKLIN PLANNING AND HIGHWAY DEPARTMENTS DRAINAGE PRIOR TO CONSTRUCTION.
   A. IF THE CONTRACTOR ELECTS TO USE ALTERNATE PRECAST STRUCTURES, HE SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ANY CONSTRUCTION.
6. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478.
7. CASTINGS SHALL BE AS SHOWN ON THE DETAIL SHEET(S) FOR MANUFACTURER, TYPE AND MODEL NUMBER.
8. NUMBER 53 STONE BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND TRENCHES WITHIN FIVE(5) FEET OF THE EDGE OF PAVEMENT.
9. ALL TRENCHES UNDER PAVEMENT SHALL BE COMPACTED TO 95 PERCENT MODIFIED PROCTOR.

3. APPLICATION

A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.

B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.

E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. MANHOLE INVERTS: CONSTRUCT MANHOLE FLOW CHANNELS OF CONCRETE SEWER PIPE OR BRICK, SMOOTHLY FINISHED AND OF SEMICIRCULAR SECTION CONFORMING TO THE INSIDE DIAMETER OF THE CONNECTING SEWERS. MAKE CHANGES IN SIZE OR GRADE GRADUALLY AND CHANGES INDIRECTION BY TRUE CURVES. PROVIDE SUCH CHANNELS FOR ALL CONNECTING SEWERS AT EACH MANHOLE.

I. SUBDRAINS: ALL SUBDRAINS SHALL BE OF THE SIZE SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED TO THE GRADES SHOWN. ALL DRAINS CONSTRUCTED OFF-SITE AS PART OF THE OUTLET DRAIN WILL BE LOCATED AS SHOWN.

J. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

WATER LINE SYSTEM

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL WATER MAIN, FIRE HYDRANTS, SERVICES AND RELATED ITEMS, INCLUDING EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.

2. MATERIALS

A. ALL MATERIALS SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES AND SHALL BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. ALL C-900 PVC WATER MAIN SHALL BE DR-14 CLASSIFICATION.

3. APPLICATION

A. PERMITS AND CODES: THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. THE CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING WATER MAINS.

B. LOCAL STANDARDS: THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS: THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE WATER LINE INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP: THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. THIS INCLUDES ALL REQUIRED CLEANING AND TESTING PROCEDURES REQUIRED BY THE STATE AND LOCAL AGENCIES.

E. TRENCHING: LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. OF PIPE. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS: WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING PIPE AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING: BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. NOTE THAT PVC & HDPE PIPE SHALL BE COVERED WITH 12" MINIMUM OF #8 STONE. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE "B" BORROW OR EQUIVALENT GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

SANITARY SEWER SYSTEMS

1. SCOPE OF WORK

A. THE WORK UNDER THIS SECTION INCLUDES ALL SANITARY SEWERS, MANHOLES, CLEANOUTS AND RELATED ITEMS INCLUDING EXCAVATING AND BACKFILLING, NECESSARY TO COMPLETE THE WORK SHOWN IN THE DRAWINGS, STARTING OUTSIDE THE BUILDING WALLS. THE END OF SEWERS SHALL BE TIGHTLY PLUGGED OR CAPPED AT THE TERMINAL POINTS, ADJACENT TO THE BUILDING DRAIN AS SPECIFIED IN THE PLUMBING SPECIFICATIONS AND/OR ARCHITECTURAL DRAWINGS.

2. MATERIALS

A. SANITARY SEWERS

1. ALL GRAVITY PLASTIC SEWER PIPE FITTINGS SHALL CONFORM TO ASTM D3034 WITH A CELL CLASSIFICATION OF 12454-B OR 12454-C. FLEXIBLE GASKETED COMPRESSION JOINTS SHALL BE USED FOR PVC & PVC TRUSS PIPE. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED.
2. ABS SEWER PIPE AND FITTINGS SHALL CONFORM TO ASTM D2680 LATEST REVISION.
3. TRACER WIRE SHALL BE INSTALLED WITH ALL NEW SANITARY PIPE.

B. MANHOLES

1. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS AND STEPS SHALL CONFORM TO ASTM C-478 LATEST REVISION. EXTERIOR OF THE MANHOLE SHALL BE WATERPROOFED WITH BISMATIC MATERIAL.
2. CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOW HOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL-CLEANED BY SHOT-BLASTING OR BY SOME OTHER APPROVED METHOD. THEY SHALL BE COATED WITH ASPHALT PAINT WHICH SHALL RESULT IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE. THEY SHALL BE GRAY IRON MEETING ASTM A-48 LATEST REVISION. MANHOLE COVERS FOR SANITARY SEWER SHALL BE NEENAH TYPE R-1722 W/R-1712-B-SP FRAME W/SELF-SEALING APPLICATION.
3. JOINTS: MANHOLE SECTIONS SHALL BE JOINED WITH A NOMINAL ½ INCH SIZE BUTYL RUBBER BASE GASKET MATERIAL, CONFORMING TO AASHTO M-198 AND FEDERAL SPECIFICATION SS-S-210A. JOINT CONFORMS TO ASTM C-443.
4. MANHOLES SHALL INCLUDE STEPS. SANITARY SEWER STANDARDS REVISIONS SHALL BE THAT STEPS ARE TO BE POLYPROPYLENE COATED STEEL REINFORCING OR AN APPROVED NON-CORROSIVE FIBERGLASS MATERIAL. THE COPOLYMER POLYPROPYLENE SHALL MEET THE REQUIREMENTS OF ASTMD-4101 WITH DEFORMED ⅜ INCH DIAMETER OR LARGER REINFORCING STEEL CONFORMING TO ASTM A-615, GRADE 60. STEPS SHALL BE A MAXIMUM OF 24 INCHES FROM TOP, 24 INCHES FROM BOTTOM AND 16 INCHES SPACING BETWEEN.

C. SANITARY FORCE MAINS

1. ALL SANITARY FORCE MAIN PIPE AND FITTINGS SHALL CONFORM TO ASTM D2241, STANDARD SPECIFICATION FOR POLY VINYL CHLORIDE (PVC) PRESSURE-RATED PIPE, (SDR 21, GREATER THAN 4 INCH DIAMETER).
2. TRACER WIRE SHALL BE INSTALLED WITH ALL SANITARY FORCE MAIN PIPE.

D. CASING

1. SANITARY SEWERS CONSTRUCTED WITH POLYVINYL CHLORIDE (PVC) AND INSTALLED UNDER RAILROADS SHALL BE CASED IN CONFORMANCE WITH AWWA STANDARD C900-89, STANDARD FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, 4 IN. THROUGH 12 IN. FOR WATER DISTRIBUTION, APPENDIX A.

3. APPLICATION

A. PERMITS AND CODES:
THE INTENT OF THIS SECTION OF THE SPECIFICATIONS IS THAT THE CONTRACTOR'S BID ON THE WORK COVERED HEREIN SHALL BE BASED UPON THE DRAWINGS AND SPECIFICATIONS BUT THAT THE WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AS AMENDED BY ANY WAIVERS. CONTRACTOR SHALL FURNISH ALL BONDS NECESSARY TO GET PERMITS FOR CUTS AND CONNECTIONS TO EXISTING SEWERS.

B. LOCAL STANDARDS:
THE TERM "LOCAL STANDARDS" AS USED HEREIN MEANS THE STANDARDS OF DESIGN AND CONSTRUCTION OF THE RESPECTIVE MUNICIPAL DEPARTMENT OR UTILITY COMPANY.

C. EXISTING IMPROVEMENTS:
THE CONTRACTOR SHALL MAINTAIN IN OPERATING CONDITION ALL ACTIVE UTILITIES, SEWERS AND OTHER DRAINS ENCOUNTERED IN THE SEWER INSTALLATION. THE CONTRACTOR SHALL REPAIR TO THE SATISFACTION OF THE OWNER ANY DAMAGE TO EXISTING ACTIVE IMPROVEMENTS.

D. WORKMANSHIP:
THIS WORK SHALL CONFORM TO ALL LOCAL, STATE AND NATIONAL CODES AND TO BE APPROVED BY ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.

E. TRENCHING:
LAY ALL PIPE IN OPEN TRENCHES, EXCEPT WHEN THE LOCAL AUTHORITY GIVES WRITTEN PERMISSION FOR TUNNELING. OPEN THE TRENCH SUFFICIENTLY AHEAD OF PIPE-LAYING TO REVEAL ANY OBSTRUCTIONS. THE MIN. WIDTH OF TRENCH SHALL BE 1.25 TIMES THE OUTSIDE DIA. PLUS 12 INCHES. SHEET AND BRACE TRENCH AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING TO COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS. KEEP TRENCHES FREE FROM WATER WHILE CONSTRUCTION IS IN PROGRESS. UNDER NO CIRCUMSTANCES SHALL PIPE OR APPURTENANCES BE LAID IN STANDING WATER. CONDUCT THE DISCHARGE FROM TRENCH DE-WATERING TO DRAINS OR NATURAL DRAINAGE CHANNELS.

F. SPECIAL SUPPORTS:
WHENEVER, IN THE OPINION OF THE ENGINEER, THE SOIL AT OR BELOW THE PIPE GRADE IS UNSUITABLE FOR SUPPORTING SEWERS AND APPURTENANCES SPECIFIED IN THIS SECTION, SUCH SPECIAL SUPPORT, IN ADDITION TO THOSE SHOWN OR SPECIFIED, SHALL BE PROVIDED AS THE ENGINEER MAY DIRECT, AND THE CONTRACT WILL BE ADJUSTED.

G. BACKFILLING:
BACKFILL SHALL BE PLACED AS SHOWN IN THE PLANS. COMPACT THIS BACKFILL THOROUGHLY, TAKING CARE NOT TO DISTURB THE PIPE. BACKFILL UNDER AND WITHIN 5 FEET OF WALKS, PARKING AREAS, DRIVEWAYS AND STREETS SHALL BE GRANULAR MATERIAL ONLY AND THOROUGHLY COMPACTED BY APPROVED METHODS.

H. FLOW CHANNELS:
THE FLOW CHANNELS WITHIN MANHOLES SHALL BE AN INTEGRAL PART OF THE PRECAST BASE. THE CHANNELS SHALL BE SHAPED AND FORMED FOR A CLEAN TRANSITION WITH PROPER HYDRAULICS TO ALLOW THE SMOOTH CONVEYANCE OF FLOW THROUGH THE MANHOLE. THE BENCH WALL SHALL BE FORMED TO THE CROWN OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL. THE BENCH WALL SHALL SLOPE BACK FROM THE CROWN AT ½ INCH PER FOOT TO THE MANHOLE WALL.

I. LEAKAGE TESTING:
THE CONTRACTOR SHALL FURNISH THE NECESSARY EQUIPMENT TO TEST SEWERS FOR INFILTRATION. ALL SANITARY SEWER GRAVITY LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS ONE OF THE FOLLOWING TESTS:

J. HYDROSTATIC TEST:
A HYDROSTATIC TEST SHALL BE PERFORMED WITH A MINIMUM OF TWO (2) FEET OF POSITIVE HEAD. THE RATE OF EXFILTRATION OR INFILTRATION SHALL NOT EXCEED TWO HUNDRED (200) GALLONS PER INCH OF PIPE DIAMETER PER LINEAR MILE PER DAY.

K. LOW PRESSURE AIR TEST:
A LOW PRESSURE AIR TEST SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM F1417, STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR, FOR PLASTIC PIPE.

L. ALL SANITARY FORCE MAIN LINES, UPON COMPLETION, SHALL BE REQUIRED TO PASS A LEAKAGE TEST CONDUCTED IN ACCORDANCE WITH AWWA STANDARD C605-94, AWWA STANDARD FOR UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS FOR WATER.

M. ALL SANITARY SEWER MANHOLES SHALL ALSO BE AIR TESTED IN ACCORDANCE WITH ASTM C1244-93, STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST.

N. FLUSHING SEWERS:
FLUSH ALL SANITARY SEWERS EXCEPT BUILDING SEWERS WITH WATER TO OBTAIN FREE FLOW THROUGH EACH LINE. REMOVE ALL SILT AND TRASH FROM APPURTENANCES JUST PRIOR TO ACCEPTANCE OF WORK.

O. PLASTIC SEWER PIPE INSTALLATION:
PLASTIC SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 PER LATEST REVISION. PIPES SHALL BE TESTED AFTER THIRTY DAYS, USING A MANDREL THAT IS 95% OF THE INSIDE DIAMETER OF THE PIPE BEING TESTED. SAID MANDREL SHALL BE PULLED BY HAND THROUGH EACH PIPE SECTION TO ENSURE DEFLECTION IS LESS THAN ACCEPTABLE LIMITS.

P. STORM WATER CONNECTIONS:
NO ROOF DRAINS, FOOTING DRAINS AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEMS, INCLUDING TEMPORARY CONNECTIONS DURING CONSTRUCTION.

Q. WATERLINE CROSSING:
WHERE WATER LINES AND SANITARY SEWERS CROSS AND WATER LINES CANNOT BE PLACED ABOVE THE SEWER WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, THE SEWER MUST BE CONSTRUCTED OF WATER WORKS GRADE DUCTILE IRON PIPE WITH MECHANICAL JOINTS WITHIN 10 FEET OF THE WATER LINE.

R. UTILITIES:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERITY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER OF ANY CHANGES, ERRORS OR OMISSIONS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.

S. SERVICE LATERALS:
INDIVIDUAL BUILDING LINES SHALL BE 6 INCHES IN DIAMETER AND OF MATERIAL EQUAL TO THAT SPECIFIED IN 2A OF THIS SECTION. SERVICE LINES SHALL BE CONNECTED TO THE MAIN SEWER AT LOCATIONS SHOWN IN THESE PLANS.

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

SHEET 900

SPECIFICATIONS

MARRIOTT FAIRFIELD INN & SUITES

JOB No.	.	DRAWN	KLF/LMC	CHECKED	TEN
DATE	SEPTEMBER 15, 2017	DESIGNED	DMS	APPR.	GJI

DEREK M. SNYDER
No. 11200008

Derek M. Snyder

NO.	DATE	REVISIONS	BY	APPR.
9				
8				
7				
6				
5				
4				
3				
2				
1				

SHEET 900

Luminaire Schedule					
Label	Arrangement	Manufacturer	Series	Lum. Lumens	LLF
AC4HS	SINGLE	Gardco	ECF-S-48L-900-NW-G2-4-HIS	13170	0.862
AC4	SINGLE	PHILIPS GARDCO	ECF-S-48L-900-NW-G2-4	16795	0.862
L506	SINGLE	PHILIPS-HADCO LIGHTING	RD6AKF10NA	802	0.862
R05	SINGLE	Pathway Lighting Products Inc.	6VLFL2X500035K_6VLEDFOLSCLPF	4020	0.833

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Pathways at Building	Illuminance	Fc	1.99	7.6	0.4	4.98	19.00
Patio	Illuminance	Fc	1.90	10.9	0.4	4.75	27.25
Property Boundary	Illuminance	Fc	0.17	1.6	0.0	N.A.	N.A.
Site	Illuminance	Fc	3.25	8.9	1.0	3.25	8.90
Under canopy	Illuminance	Fc	23.33	28.9	15.1	1.55	1.91

PHOTOMETRIC PLAN GENERAL NOTES

A. THIS PHOTOMETRIC REPORT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA (IES FILES). THIS LABORATORY DATA IS TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRES MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS.

B. THE ILLUMINATION LEVELS, MEASURED IN FOOTCANDLES, SHOWN ARE BASED ON THE SPECIFIED CRITERIA. ANY SUBSTITUTIONS/DEVIATIONS IN LUMINAIRES OR ALTERATIONS TO THE LAYOUT WILL AFFECT ILLUMINATION LEVELS SHOWN AND WILL NOT BE THE RESPONSIBILITY OF KLH ENGINEERS, PSC.

C. FINAL ADJUSTMENTS TO AIMING ANGLE(S) OF LUMINAIRES MAY BE REQUIRED TO ELIMINATE LIGHT TRESPASS OR GLARE ONTO ADJACENT PROPERTIES OR ROADWAYS.

D. FOOTCANDLE LEVELS SHOWN ARE CONSIDERED MAINTAINED.

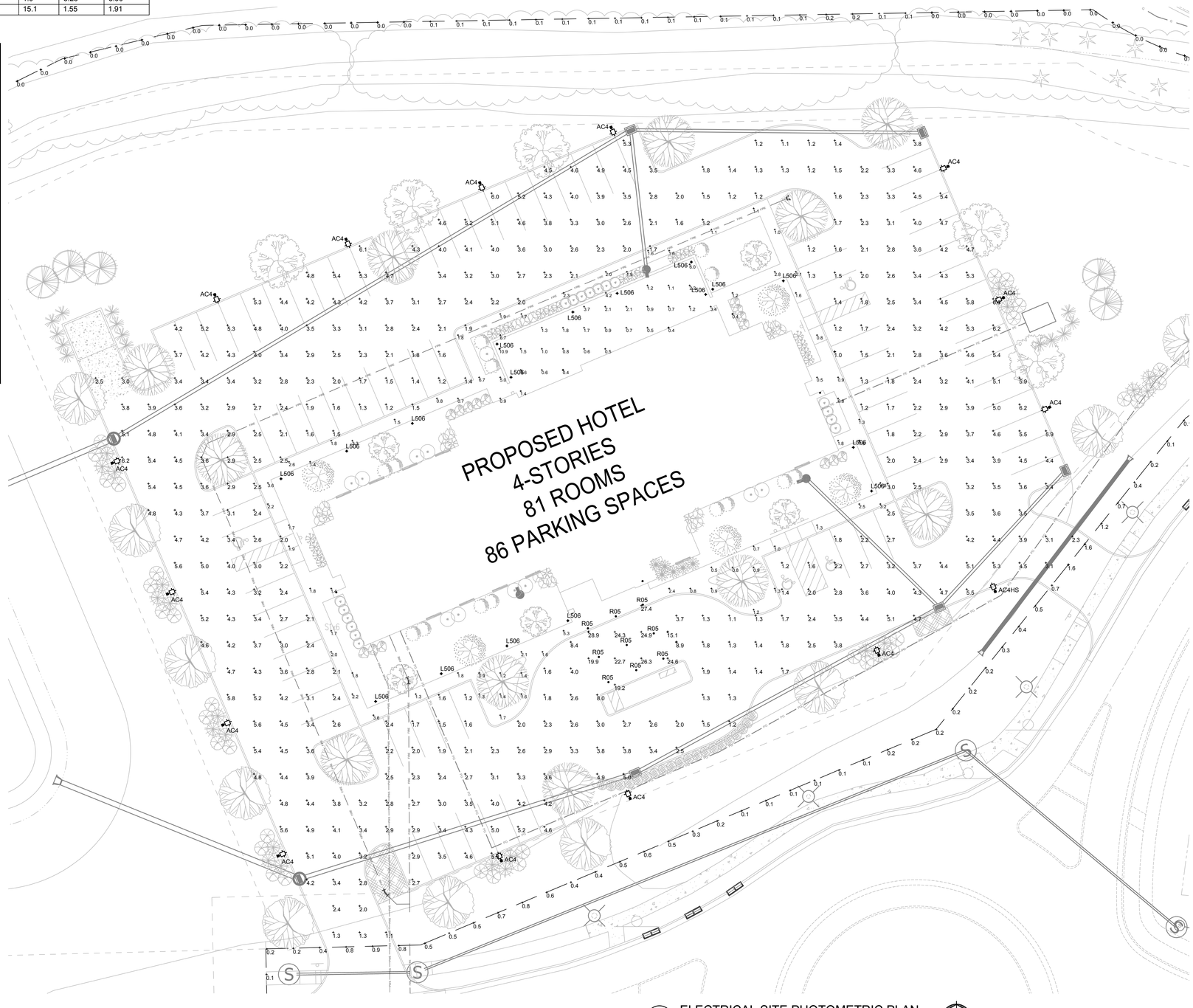
E. REFER TO THE LUMINAIRE SCHEDULE FOR ALL LUMINAIRE AND POLE INFORMATION.

F. CONTRIBUTIONS FROM ADJACENT STREET LIGHTING, ADJACENT PROPERTIES AND BUILDING OR POLE MOUNTED LUMINAIRES, NOT WITHIN THIS PROJECT, ARE NOT REFLECTED IN THIS PHOTOMETRIC REPORT.

G. THIS PHOTOMETRIC REPORT DOES NOT ACCOUNT FOR TOPOGRAPHY CHANGES UNLESS OTHERWISE INDICATED.

H. MARRIOT BRAND STANDARDS - MIN FC. MAINTAINED:
H.A. SITE AREAS - GENERAL 1.0
H.B. PARKING LOT 1.0
H.C. PORTE COCHERE 15.0

I. ALL POLE MOUNTED LUMINAIRES ARE TO BE MOUNTED PER FRANKLIN, INDIANA MUNICIPAL CODE TITLE 17 - ZONING, CHAPTER 17.32 - DEVELOPMENT STANDARDS 17.32.180 - EXTERIOR LIGHTING STANDARDS, ITEM #2:
I.A. MAXIMUM MOUNTING HEIGHT. THE MAXIMUM MOUNTING HEIGHT FOR ALL PARKING LOT ILLUMINATING LIGHT FIXTURES SHALL BE AS FOLLOWS: "...TWENTY-FIVE (25) FEET IN ALL MIXED-USE AND INSTITUTIONAL ZONING DISTRICTS..."



1 ELECTRICAL SITE PHOTOMETRIC PLAN
SCALE: 1" = 20'-0"

MARK A. CARLSEN, ARCHITECT

Revisions

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Taos, New Mexico 87571
Phone/Fax: (575) 751-9526

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DAYTON, OHIO
NEW YORK, NEW YORK

JEFFREY A. LEUDERS-BEIT
REGISTERED
No. PE 10509882
STATE OF INDIANA
SEP 14 2017

FAIRFIELD INN & SUITES
350 PARIS DRIVE
FRANKLIN, IN 46131

ELECTRICAL SITE PHOTOMETRIC PLAN

DATE: SEPTEMBER 14TH, 2017

ES101

PHILIPS GARDCO

Site & Area

EcoForm

ECF-S small

AC4HS - ECF-S-48L-900-NW-G2-4-HIS
AC4 - ECF-S-48L-900-NW-G2-4

The Philips Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 26,400 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings.

Project:
Location:
Cat.No:
Type:
Qty:
Notes:

Ordering guide

example: ECF-S-64L-900-NW-G2-AR-5-120-HIS-MGY

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage	Options: Controls	Options: Electrical	Options: Luminaire	Finish
ECF-S										
ECF-S EcoForm Site and Area, Small	**32L** 32 LEDs (2 modules)	**530** 530mA; **700** 700mA; **1A** 1050mA; **1.2A** 1200mA	**WW-G2** Warm White 3000K, 70CRI Generation 2	**AR** Arm Mount (standard)[9]	Type 2: **2** Type 2; **2-90** Rotated left 90°; **2-270** Rotated right 270°	**120** 120V; **208** 208V; **240** 240V; **277** 277V; **347** 347V; **480** 480V; **UNV** 120-277V (50/60Hz); **HVU** 347-480V (50/60Hz)	**DD** 0-10V Dimming Driver[5]; **DCC** Dual Circuit Control[6]	**TB** Terminal Block[7]	**RPA** Round Pole Adapter (fits to 3"- 3.9" O.D. pole)[10]	Textured: **BK** Black; **WH** White; **BZ** Bronze; **DGY** Dark Gray; **MGY** Medium Gray
	48L 48 LEDs (3 modules)	**900** 900mA; **1A** 1050mA; **1.2A** 1200mA	**NW-G2** Neutral White 4000K, 70CRI Generation 2	*The following mounting kits must be ordered separately (See accessories)*	Type 3: **3** Type 3; **3-90** Rotated left 90°; **3-270** Rotated right 270°		Photoelectric/Receptacle systems (Twist Lock Receptacle): **PCB** Photocontrol Button[2,3]; **TLRD5** Twist Lock Receptacle 5 Pin; **TLRD7** Twist Lock Receptacle 7 Pin; **TLRPC** Twist Lock Receptacle w/Photocell[2]	Fusing: **F1** Single (120, 277, 347VAC)[2]; **F2** Double (208, 240, 480VAC)[2]	**HIS** Internal House Side Shield[4]	Customer specified: **RAL** Specify optional color or RAL (ex: RAL7024); **CC** Custom color (Must supply color chip for required factory quote)
	64L 64 LEDs (4 modules)	**900** 900mA; **1A** 1050mA	**CW-G2** Cool White 5000K, 70CRI Generation 2	**SF** Slip Fitter Mount[11] (fits to 2 3/8" O.D. tenon); **WS** Wall mount with surface conduit rear entry permitted; **RAM** Retrofit arm mount kit[9]	Type 4: **4** Type 4; **4-90** Rotated left 90°; **4-270** Rotated right 270°		DynaDimmer: Automatic Profile Dimming: **CS50** Safety 50% Dimming, 7 hours[1]; **CM50** Median 50% Dimming, 8 hours[1]; **CE50** Economy 50% Dimming, 9 hours[1]; **DA50** All Night 50% Dimming[1]	Pole Mount Fusing: **FP1** Single (120, 277, 347VAC)[2]; **FP2** Double (208, 240, 480VAC)[2]; **FP3** Canadian Double Pull (208, 240, 480VAC)[2]		
					Type 5: **5** Type 5; **5W** Type 5W		Infrared Motion Response Systems: **IMRI3** Integral with #3 lens[8]; **IMRI7** Integral with #7 lens[8]	Surge Protection: **SP1** Standard 10kA; **SP2** Increased 20kA		
					AFR Auto Front Row; **AFR-90** Auto Front Row, Rotated left 90°; **AFR-270** Auto Front Row, Rotated right 270°		Pole Mounted Infrared Motion Response systems with DynaDimmer: **CS50-IMRO** with Safety 50% Dimming[1,5]; **CM50-IMRO** with Median 50% Dimming[1,5]; **CE50-IMRO** with Economy 50% Dimming[1,5]; **DA50-IMRO** with All Night 50% Dimming[1,5]			
							Network system (SiteWise): **SW** Integral module[12,13]; **SW-IMRO** Pole mounted motion response option			
							Wireless system: **LLC2** Integral module with #2 lens[1,6]; **LLC3** Integral module with #3 lens[1,6]; **LLC4** Integral module with #4 lens[1,6]			

1. Available only on **120**, **208**, **240**, and **277** (or **UNV**)
2. Specify Voltage
3. Not available with **347** or **480** voltage
4. **HIS** not available with Type **5** or **5W** optics
5. **DD** is required for **LLCR** and pole mount motion sensor. Dimming leads are supplied through back of luminaire. **Must be ordered separately** (See accessories page)
6. **DCC** and **LLC2/3/4** not available with any other controls
7. **TB** not available with **DCC**
8. **ECF-IMRI** equipped with out-boarded sensor housing when voltage is **HVU** (347-480V)
9. Mounts to a 4" round pole with adapter included for square poles.
10. Not available with **SF** and **WS**. **RPA**s provided with black finish standard
11. Limited to a maximum of 45 degrees aiming above horizontal
12. **SW** option is not available with any other control options with the exception of **IMRI3**, **IMRI7** and **SW-IMRO** motion response options
13. Available only on **120V** and **277V**

ECF-S EcoForm small

Site & Area

EcoForm Accessories (ordered separately, field installed)

Controls Accessories

Pole Mount Motion Sensor
- **MS-A-120V**[11] 120V Input
- **MS-A-277V**[11] 277V Input

Wireless systems Remote mount module
- **LLCR2-(F)**[11] #2 lens
- **LLCR3-(F)**[11] #3 lens
- **LLCR4-(F)**[11] #4 lens

Central Remote Motion Response (used connected to SiteWise main panel)
- **MS2-A-FVR-3**
- **MS2-A-FVR-7**

11. **DD** option required
12. Not available with Type **5** or **5W** optics

Shielding Accessories[10]

House Side shield

Standard orientation:
- **HIS-32-H**[12] Internal House Side Shield for 32 LEDs (2 modules)
- **HIS-48-H**[12] Internal House Side Shield for 48 LEDs (3 modules)
- **HIS-64-H**[12] Internal House Side Shield for 64 LEDs (4 modules)

At 90 or 270 orientation:
- **HIS-32-V**[12] Internal House Side Shield for 32 LEDs (2 modules)
- **HIS-48-V**[12] Internal House Side Shield for 48 LEDs (3 modules)
- **HIS-64-V**[12] Internal House Side Shield for 64 LEDs (4 modules)

Luminaire Accessories
- **ECF-BD-G2** Bird deterrent
- **PTF2-(F)** Pole top fitter fits 2 3/8-2 1/2" OD x 4" depth tenon with 1, 2, 3 or 4 luminaires at 90°
- **PTF3-(F)** Pole top fitter fits 3-3 1/2" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°
- **PTF4-(F)** Pole top fitter fits 3 1/2-4" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°
- **ECF-SF-G2-(F)** Slip Fitter Mount (fits to 2 3/8" O.D. tenon)
- **ECF-RAM-G2-(F)** Retrofit Arm mount kit
- **ECF-WS-G2-(F)** Wall mount with surface conduit rear entry permitted

(F) = Specify finish

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>60,000 hours	>88%

LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.[3]	Average System Watts[1]	Type 2 Lumen Output[1,2]	Type 2 BUG Rating	Type 2 Efficacy (LPW)	Type 3 Lumen Output[1,2]	Type 3 BUG Rating	Type 3 Efficacy (LPW)	Type 4 Lumen Output[1,2]	Type 4 BUG Rating	Type 4 Efficacy (LPW)
ECF-S-32L-530-NW-G2-x	32	530	4000	56	6,864	B2-U0-G2	123	6,715	B1-U0-G2	121	7,025	B1-U0-G2	126
ECF-S-32L-700-NW-G2-x	32	700	4000	73	8,853	B2-U0-G2	121	8,661	B2-U0-G2	119	9,062	B1-U0-G2	124
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	12,464	B3-U0-G2	118	12,194	B2-U0-G2	115	12,757	B2-U0-G3	121
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	13,826	B3-U0-G3	114	13,526	B2-U0-G3	111	14,151	B2-U0-G3	116
ECF-S-48L-900-NW-G2-x	48	900	4000	135	16,409	B3-U0-G3	121	16,053	B2-U0-G3	119	16,795	B2-U0-G3	124
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	18,581	B3-U0-G3	117	18,178	B3-U0-G3	115	19,018	B2-U0-G4	120
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	20,627	B3-U0-G3	113	20,180	B3-U0-G4	110	21,112	B3-U0-G4	116
ECF-S-64L-900-NW-G2-x	64	900	4000	178	21,717	B3-U0-G3	122	21,246	B3-U0-G4	119	22,228	B3-U0-G4	125
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	24,467	B3-U0-G3	119	23,936	B3-U0-G4	116	25,043	B3-U0-G4	122

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.[3]	Average System Watts[1]	Type 5 Lumen Output[1,2]	Type 5 BUG Rating	Type 5 Efficacy (LPW)	Type 5W Lumen Output[1,2]	Type 5W BUG Rating	Type 5W Efficacy (LPW)	Type AFR Lumen Output[1,2]	Type AFR BUG Rating	Type AFR Efficacy (LPW)
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,414	B3-U0-G2	133	7,175	B3-U0-G2	129	7,111	B2-U0-G1	128
ECF-S-32L-700-NW-G2-x	32	700	4000	73	9,563	B3-U0-G2	131	9,255	B4-U0-G2	127	9,172	B2-U0-G1	126
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	13,462	B4-U0-G2	127	13,030	B4-U0-G2	123	12,912	B3-U0-G2	122
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	14,933	B4-U0-G2	123	14,453	B4-U0-G2	119	14,322	B3-U0-G2	118
ECF-S-48L-900-NW-G2-x	48	900	4000	135	17,723	B4-U0-G2	131	17,154	B5-U0-G3	127	16,999	B3-U0-G2	126
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	20,069	B5-U0-G3	126	19,424	B5-U0-G3	122	19,248	B3-U0-G2	121
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	22,279	B5-U0-G3	122	21,563	B5-U0-G3	118	21,368	B3-U0-G2	117
ECF-S-64L-900-NW-G2-x	64	900	4000	178	23,456	B5-U0-G3	132	22,702	B5-U0-G3	128	22,497	B3-U0-G2	127
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	26,427	B5-U0-G3	128	25,577	B5-U0-G4	124	25,346	B3-U0-G2	123

1. Wattage and lumen output may vary due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Measured wattage may vary due to variation in input voltage.
2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.
3. Warm white color temperature will result in decreased lumen output.

Contact outdoorlighting.applications@philips.com for details or additional information.

Coventry Architectural Series

SERIES 6VLFL2X Lensed LED Downlight
948-4369 Lumen Flex

CALIBER LED LIGHTING

5 Year Warranty

APPLICATION

Small-aperture medium-distribution downlight is suitable for commercial, retail and institutional applications that require an energy saving, long life LED lamp source, high lumen output, excellent color rendering characteristics and a lensed reflector.

PRODUCT DATA

REFLECTOR: Heavy-gauge aluminum reflector features a regressed splay and a variety of lenses. Reflectors are available in specular or matte finish, as well as a variety of standard and special finishes.

HOUSING: Heavy-gauge galvanized steel housing provides a secure mounting platform for the electrical components and protects the optical assembly. Standard plaster flange allows one-inch ceiling thickness. LED module is accessible from below.

MOUNTING: Universal Mounting brackets adjust vertically and accept L-BAR interlocking, expandable c-channel hanger bars which are supplied standard. L-BARS are suitable for T-bar, wood joist, and metal joist ceiling styles. Additional features on last page.

ELECTRICAL: Standard 120 or 277 VAC, 50-60 Hz. Optional 347V (E3).

JUNCTION BOX: Heavy-gauge galvanized junction box pre-wired with grounding pigtail. Easy access covers. Multiple conduit knockouts listed for through branch circuit wiring.

LED MODULE & DRIVER: LED Module and Driver are manufactured by Philips Lighting.

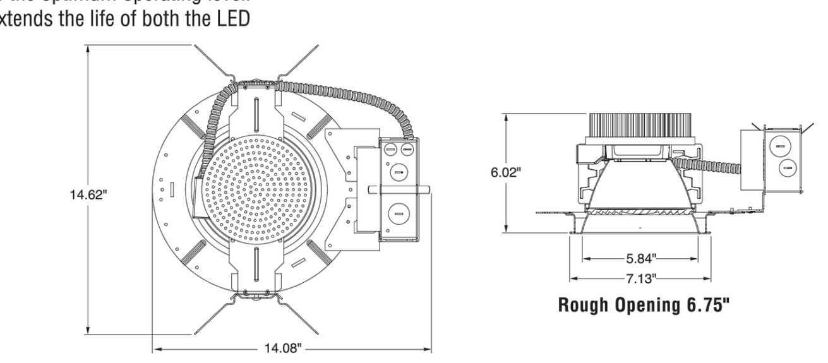
DIMMING: Standard product is compatible with 0-10 volt dimming controls. See below for additional options.

HEAT MANAGEMENT: Engineered heat sink provides passive cooling for optimum heat management of the LED engine. Philips Xitanium driver (D8), when used with Flex LED module, features an intelligent thermal feedback loop that monitors the temperature of the LED module. Power will be reduced if the temperature exceeds the optimum operating level. LED will dim in response but will not extinguish. This feature extends the life of both the LED module and driver.

- Expected lamp life to be 50,000 hours with 70% lumen maintenance when ambient temperatures do not exceed 45°C. Lower ambient temperatures yield longer lamp life.

CRI = 80.
Specifications based on Flex LED module by Philips Lighting after 100 hours.

Intertek Wet Location Under Covered Ceiling
ENERGY STAR



Catalog #:

6VLFL2X
Example: 6VLFL2X11004KE1D8

Fixture Series	Delivered Lumens	Color Temp.	Input Voltage	Dimming
6VLFL2X	1100 (948L, 12W); 1500 (1264L, 15W); 2000 (1698L, 21W); 3000 (2658L, 33W); 4000 (3538L, 41W); 5000 (4369L, 50W). Clear Lens Shown. See next page for delivered lumens data.	4K (4000K); 35K (3500K); 3K (3000K); 27K (2700K)	120/277V When Using D8 Dimming*; E1 120 Volt*; E2 277 Volt*; E3 347 Volt^	D8 Xitanium 1% 0-10V (linear) standard. More Options On Next Page

6VLED
Example: 6VLEDFOLSCLPF

Trim	Trim Finish w/polished flange
6VLEDFOL – Frosted Lens (Acrylic); 6VLEDFL – Fresnel Lens (Tempered Glass); 6VLEDPL – Prismatic Lens (Tempered Glass); 6VLEDCL – Clear Lens (Acrylic); 6VLEDCGL – Clear Lens (Tempered Glass); 6VLEDSOL – Clear Lens (Acrylic)	SCLPF – Soft Specular Clear Alzak; HAZPF – Haze Alzak; WL – Optional Gasketed Lens

For white painted flange, drop "PF" from Catalog #. For other finishes, consult last page.

Options
- ☐ EM^ = Emergency Battery Pack w/remotely located Test Switch

^ *E3, Pathwave and DMX options not compatible with Emergency Battery Option.*

Fixture: Type:
Project:

Manufactured and tested to UL#1598, UL#8750, and CSA standards. Fixtures are not designed for direct contact with insulation.

All Pathway® products meet or exceed requirements as established by the National Electrical Code. Specifications subject to change without notice. *Alzak® is a registered trademark of Alcoa.*

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voice 800.342.0592 • fax 800.207.0090 • www.pathwaylighting.com • e-mail: sales@pathwaylighting.com

LDFX33.5
CRUDUA

Job: Fairfield Inn & Suites - Franklin, IN
Type: AC4 & AC4HS
Notes:

Poles

Page 1 of 4 — 5" Straight Round Aluminum - Tenon Base

The Philips Gardco RA5 straight aluminum pole consists of a one-piece 5" round extruded aluminum lighting standard mounted to a structural quality carbon galvanized steel base tenon. This construction offers the corrosion resistance and flexibility of aluminum with the strength and integrity of steel. The poles are finished with either Architectural Class I anodizing or electrostatically applied TGIC polyester powdercoat. All poles include anchor bolts, full base cover, hand hole, ground lug and top cap.

PREFIX – BASE – HEIGHT – DRILLING – FINISH – OPTIONS

Enter the order code into the appropriate box above. Note: Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

PREFIX
- **RA5**

BASE
- **STB** Steel Tenon Base

Hinged Bases are available for this pole size. Please refer to Hinged Base Pole sheet 79415-8 for specifications and dimensions.

HEIGHT
- 15'
- 18'
- 20'
- 25' L,M,H[1]
- 28' L,M,H[1]
- 30' L,M,H[1]

1. Refers to steel base tenon size (length and thickness) based on wind load factors. L = Light; M = Medium; H = Heavy.

DRILLING
- **D1** 1 Way
- **D2** 2 Way
- **D2@90** 2 Way at 90°
- **D3** 3 Way
- **D3@120** 3 Way at 120°
- **D4** 4 Way
- **T2** 2 3/8" OD Tenon
- **T4** 4" OD Tenon

FINISH
- **BRP** Bronze Paint
- **BLP** Black Paint
- **WP** White Paint
- **NP** Natural Aluminum Paint
- **BRA** Bronze Anodized
- **BLA** Black Anodized
- **NA** Natural Anodized
- **OC** Optional Color Paint — *Specify Optional Color or RAL ex: OC-LGP or OC-RAL7024.*
- **SC** Special Color Paint — *Specify. Must supply color chip.*

OPTIONS
- **DR** Duplex Receptacle
- **GFCI** Ground Fault Receptacle
- **VDA** Vibration Dampener

Note: DR and GFCI options replace the hand hole, and are located 18" above base.

Nipples and Couplings

Indicate size (1/2", 3/4", 1", 1 1/4", 1 1/2".) Indicate height above base and orientation to hand hole. See Pole Orientataion Information on Page 4.
- **NL** Nipple - External thread
- **CL** Coupling - Internal thread

Single Mount Bullhorn Brackets

Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.
- **A15BH-19** Single - 1.9" OD
- **A15BH-24** Single - 2.4" OD
- **A215BH-19** 2-Tenon - 1.9" OD
- **A215BH-24** 2-Tenon - 2.4" OD

Motion Response Provisions
- **GMR** Provision for Gardco HID Motion Response System — *Minimum Pole Height is 18'. Includes a 1/2" coupling placed 180° to the hand hole, 12' above the pole base.*
- **MSM** Motion Sensor Mounting Provision for LED Luminaires available with Motion Response — *Minimum Pole Height is 18'. Includes a special hand hole with 1/2" coupling placed in the cover plate, 180° to the hand hole, 15' above the pole base.*

1611 Clovis Barker Road, San Marcos, TX 78666
(800) 227-0758 (512) 753-1000 FAX:(512) 753-7855 sitelighting.com

Philips Gardco reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.
79415-7/0611

PHILIPS GARDCO

Poles

Page 2 of 4 — 5" Straight Round Aluminum - Tenon Base

POLE DATA

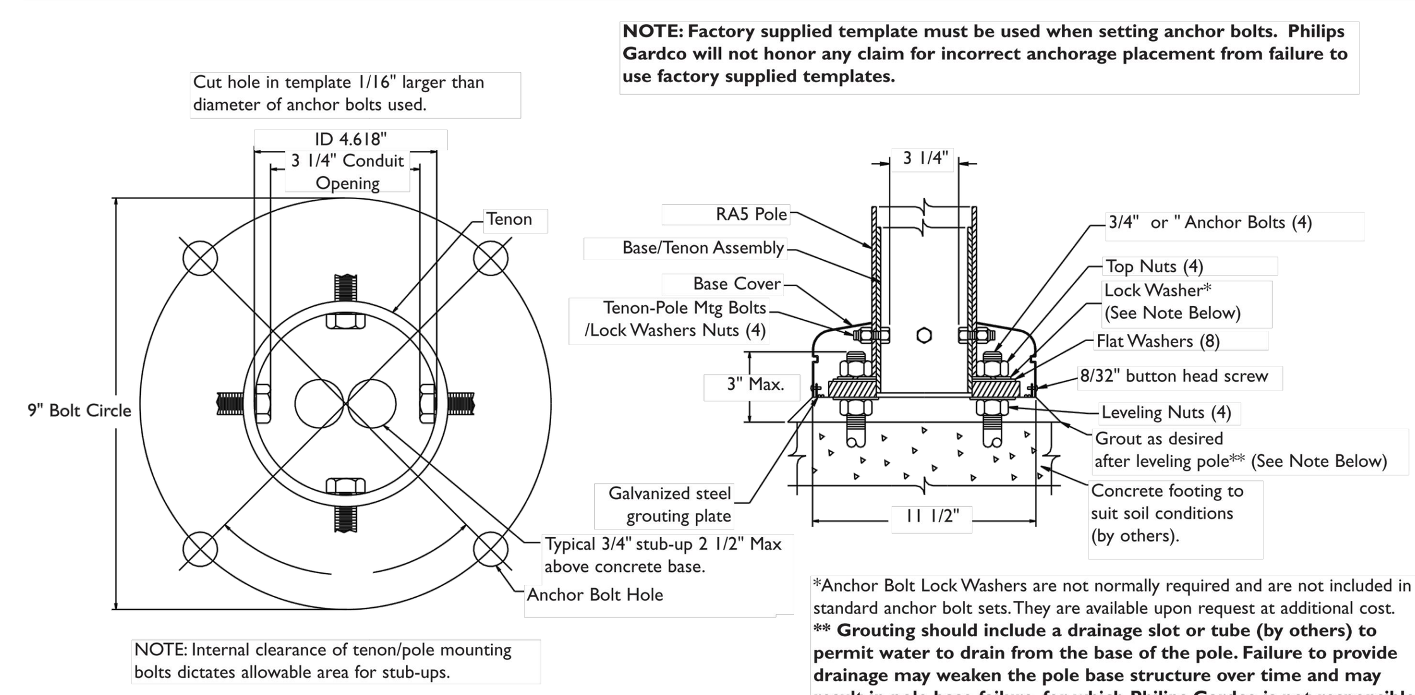
CATALOG NUMBER: PREFIX - BASE - HEIGHT	POLE SIZE: ACTUAL HEIGHT	POLE SIZE: BASE TENON HEIGHT (ft.)	POLE SIZE: WALL THICKNESS (inches.)	MAXIMUM LUMINAIRE LOADING[2]: 100 MPH EPA-FT[2]	90 MPH EPA-FT[2]	80 MPH EPA-FT[2]	ANCHOR BOLT DATA[3]: BOLT CIRCLE (inches)	BOLT SIZE (inches)	MAX PROJ. (inches)
RA5-STB-15	14' 10"	2.5	.175	10.6	13.3	17.1	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-18	17' 9"	2.5	.175	7.4	9.4	12.1	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-20	19' 10"	2.5	.175	5.7	7.3	9.5	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-25L	24' 10"	2.5	.175	2.6	3.5	4.9	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-25M	24' 10"	4	.175	3.3	4.4	6.0	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-25H	24' 10"	7	.175	5.1	6.5	8.6	9.0"	1 x 36 x 4.5	3.0"
RA5-STB-28L	27' 11"	2.5	.175	-	1.8	2.8	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-28M	27' 11"	4	.175	1.7	2.5	3.7	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-28H	27' 11"	7	.175	3.2	4.2	5.7	9.0"	1 x 36 x 4.5	3.0"
RA5-STB-30L	29' 10"	2.5	.175	-	-	1.6	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-30M	29' 10"	4	.175	-	1.5	3.0	9.0"	3/4 x 17 x 3	3.0"
RA5-STB-30H	29' 10"	7	.175	2.2	3.0	4.2	9.0"	1 x 36 x 4.5	3.0"

2. **Warning:** Additional wind loading, in terms of EPA, from banners, cameras, floodlights and other accessories attached to the pole, must be added to the luminaire(s) EPA before selecting the pole with the appropriate wind load capability.

3. Factory supplied template must be used when setting anchor bolts. Philips Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates.

DIMENSIONS

NOTE: Factory supplied template must be used when setting anchor bolts. Philips Gardco will not honor any claim for incorrect anchorage placement from failure to use factory supplied templates.



NOTE: Internal clearance of tenon/pole mounting bolts dictates allowable area for stub-ups.

*Anchor Bolt Lock Washers are not normally required and are not included in standard anchor bolt sets. They are available upon request at additional cost. **Grouting should include a drainage slot or tube (by others) to permit water to drain from the base of the pole. Failure to provide drainage may weaken the pole base structure over time and may result in pole base failure, for which Philips Gardco is not responsible.

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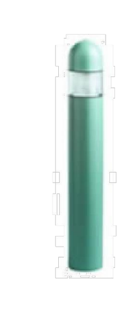
79415-7/0611

PHILIPS GARDCO

LED Bollard (RD6) Specification Sheet

Project Name:	Location:	MFG: Philips Hadco
Fixture Type:	Catalog No.:	Qty:



Ordering Guide

Example: RD6 A K5 10 W A

Product Code	RD6	LED Bollard	
Finish	A	Black	
	H	Bronze	
	I	Gray	
Optics	K5	Type V Refractor Bowl	
	KF	Type V Cone	
Wattage	10	25W LED	*1
	12L	9.5W LED	*3
CCT	W	Warm	
	N	Neutral	
Voltage	A	120-277 VAC	
	E	120V	*2

*1 Only available with cone optics 'KF'.
*2 Only available with 12.5W LED '12L'.
*3 Philips EnduraLED only available in warm CCT. Only Available in 120V

Specifications

HOUSING:
1100-0 cast aluminum alloy. Head is secured to the bollard tube with a single stainless steel allen head screw for easy removal for relamping. Easy access to lamp. 6" dia. extruded aluminum with a wall thickness of 0.125". A weatherproof ballast assembly isolates the ballast from water and heat for longer life. All non-ferrous fasteners prevent corrosion and ensure longer life.

FINISH:
Thermoset polyester powdercoat is electrostatically applied after a five-stage conversion cleaning process and bonded by heat fusion thermosetting. Laboratory tested for superior weatherability and fade resistance in accordance with ASTM B117 specifications. For larger projects where a custom color is required, contact the factory for more information.

OPTICAL ASSEMBLY:
Type V Cone Optics. Type V Refractor Bowl. Heat-resistant, low expansion borosilicate glass refractor bowl. Specular aluminum internal cone. 6" diameter, 3/16" thick U.V. stabilized, clear acrylic lens.

LAMPING:
Color Temperature (CCT): 4,000K nominal or 3,000K nominal. Approximately 50,000 hours of operational life (at 25°C ambient temp. and 70% lumen maintenance). >80 CRI. 25W 10 LED Module. 9.5W Philips LED EnduraLED lamp, LED 4Kv medium base porcelain socket A19. 2700K warm white delivers 800 lumens.

ELECTRICAL ASSEMBLY:
Smart Select Electronic Driver 120 to277 VAC input; 50-60Hz; auto-sensing. 4kv rated porcelain medium base. Nickel-plated screw shell with center contact. 25 watts consumed for 10 LED module (total fixture consumption). Operating start temperature -30ºC (-22ºF). Key-slotted Ballast Assembly is mounted to an aluminum plate, which is mounted inside the base. Quick disconnects for easy installation and removal.

INSTALLATION & MOUNTING:
Internal cast aluminum base plate is secured to anchor foundation by three (3) 3/8-16 x 8" galvanized steel bolts and stainless steel nuts in a 3" bolt circle. (Use factory supplied template.). A twist-lock action mates the base plate casting with lower bollard casting, which is welded to the bottom of the bollard extrusion. One set screw is used to secure the bollard to the base plate.

CERTIFICATIONS:
ETL Listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards.

WARRANTY:
Five-year limited warranty.

Height :
37 7/8" (96cm)

Width:
6" (15cm)

Bolt Circle:
3" (8 cm)

ISO 9001:2008 Registered

PHILIPS HADCO
Note: Philips reserves the right to modify the above details to reflect changes in the cost of materials and/or production and/or design without prior notice.
100 Craftway Drive, Littlestown, PA 17340 | P: +1-717-359-7131 F: +1-717-359-9289 | http://www.hadco.com |
HW2

MARK A. CARLSEN, ARCHITECT

Revisions

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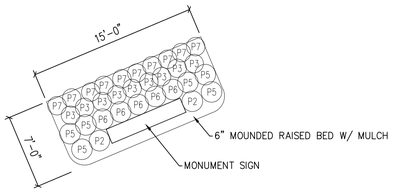
SEP 14 2017

FAIRFIELD INN & SUITES
350 PARIS DRIVE
FRANKLIN, IN 46131

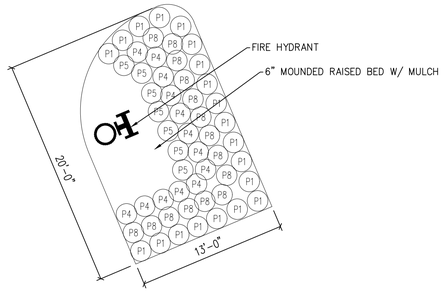
LUMINAIRE DATA

DATE: SEPTEMBER 14TH, 2017

ES101.1

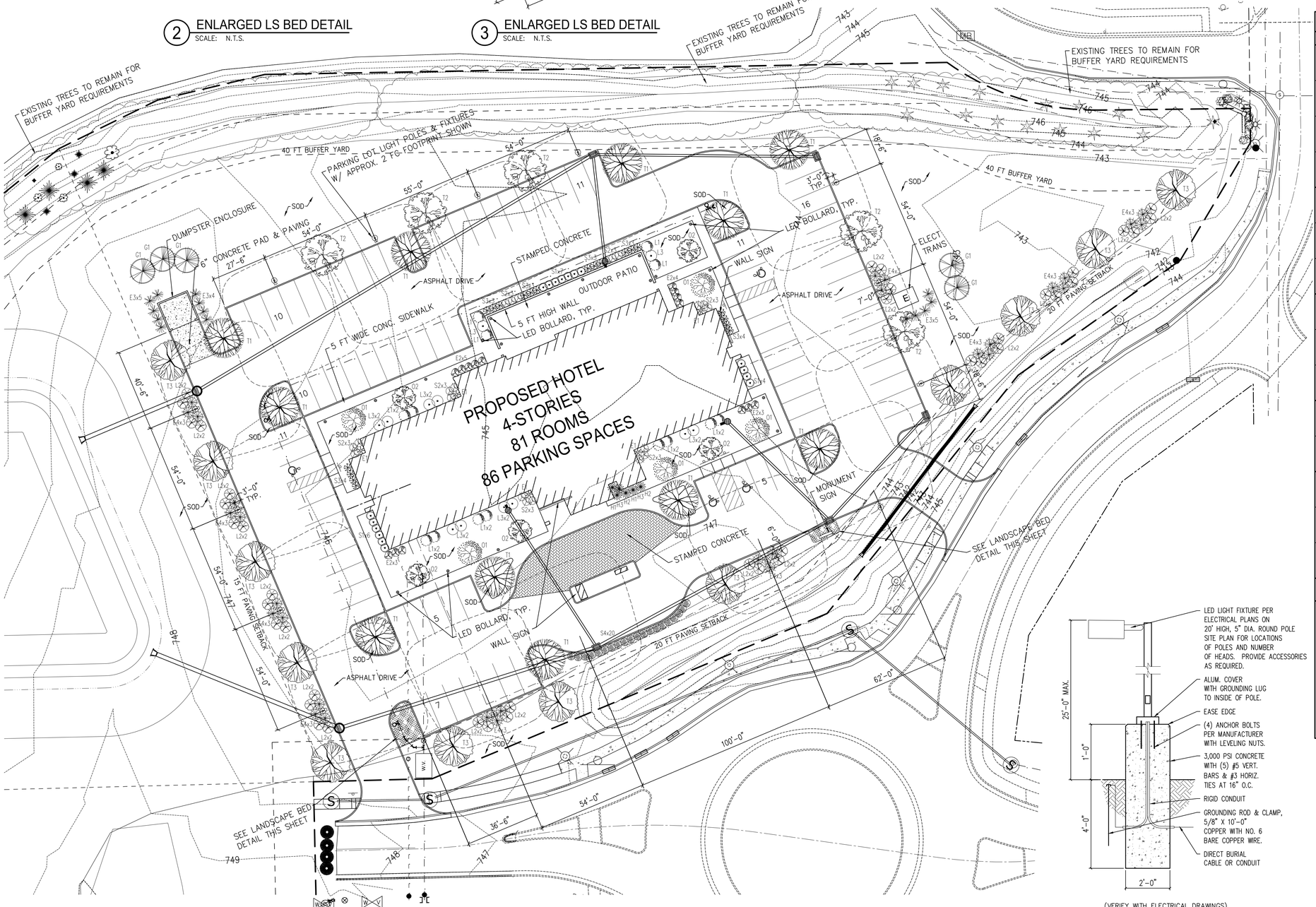


2 ENLARGED LS BED DETAIL
SCALE: N.T.S.



3 ENLARGED LS BED DETAIL
SCALE: N.T.S.

NOTE: CONTRACTOR SHALL PLANT 43 ADDITIONAL DECIDUOUS TREES WITHING THE REMAINING TRACT SOUTH OF THE DETENTION POND TO MEET PROPERTY INTERIOR LANDSCAPE REQUIREMENTS (SELECT TREE SPECIES FROM LANDSCAPE KEY)



1 LANDSCAPE PLAN
SCALE: 1" = 25'-0"

(VERIFY WITH ELECTRICAL DRAWINGS)
4 LIGHT POLE DETAIL
SCALE: N.T.S.

LANDSCAPE KEY

SYMBOL	QTY	NAMES / PLANTING & MATURE SIZES		SYMBOL	QTY	NAMES / PLANTING & MATURE SIZES	
S1	17	PINK FLOWERING ALMOND prunus glandulosa 'rosa plea' 3 GALLON CONTAINER 3'–4' SPREAD; 3'–4' HEIGHT	SMALL SHRUBS	E1	5	JUNIPER – ROBUSTA GREEN juniperus chinensis – robusta green 30 INCHES IN HEIGHT 3' SPREAD; 10'–12' HEIGHT	EVERGREEN SHRUBS
S2	21	SPIRAEA – LITTLE PRINCESS spiraea japonica 'little princess' 3 GALLON CONTAINER 2'–4' SPREAD; 2'–4' HEIGHT		E2	15	BOXWOOD – GREEN VELVET buxus 'green velvet' 3 GALLON CONTAINER 3' SPREAD; 2'–3' HEIGHT	
S3	20	SPIRAEA – GOLD FLAME spiraea x bumalda 'gold flame' 3 GALLON CONTAINER 2'–4' SPREAD; 2'–4' HEIGHT		E3	14	DWARF SERBIAN SPRUCE picea omorika 'nana' 5 GALLON CONTAINER 4'–6' SPREAD; 3'–6' HEIGHT	
S4	20	THE BLUES LITTLE BLUESTEM schizachyrium scoparium 'the blues' 2 GALLON CONTAINER 2'–3' SPREAD; 2'–3' HEIGHT		E4	30	JUNIPER – SAYBROOK GOLD juniperus chinensis 'saybrook gold' 5 GALLON CONTAINER 5'–6' SPREAD; 2'–3' HEIGHT	
L1	14	HYDRANGEA – NIKKO BLUE hydrangea macrophylla 5 GALLON CONTAINER 5'–7' SPREAD; 4'–6' HEIGHT	LARGE SHRUBS	P1	20	GRASS – LITTLE BUNNY FOUNTAIN pennisetum 'little bunny' 2 GALLON CONTAINER 2' SPREAD; 1' HEIGHT	PERENNIALS – MIXED BEDS
L2	40	BUTTERFLY BUSH – PURPLE EMPEROR buddleia 'purple emperor' 5 GALLON CONTAINER 3'–4' SPREAD; 4'–5' HEIGHT		P2	2	GRASS – LITTLE BLUE STEM schizachyrium scoparium 2 GALLON CONTAINER 2' SPREAD; 2'–4' HEIGHT	
L3	12	VIBURNUM – MOHICAN viburnum lantana 'mohican' 5 GALLON CONTAINER 6'–8' SPREAD; 5'–6' HEIGHT		P3	9	SUNFLOWER – LOW DOWN helianthus s. 'low down' 3 GALLON CONTAINER 18" SPREAD; 12" HEIGHT	
H1	2	HOSTA – AUREOMARINATE hosta fortunei 2 GALLON CONTAINER 3'–4' SPREAD; 18 INCH HEIGHT	PERENNIALS – HOSTAS	P4	14	SALVIA – SNOW HILL salvia numerosa 'schneehugel' 3 GALLON CONTAINER 24" SPREAD; 15" HEIGHT	
H2	2	HOSTA – ROYAL STANDARD hosta 'royal standard' 2 GALLON CONTAINER 3'–4' SPREAD; 18 INCH HEIGHT		P5	13	HELEN'S FLOWER – MARDI GRAS helenium 'mardi gras' 3 GALLON CONTAINER 24" SPREAD; 24" HEIGHT	
H3	2	HOSTA – FRANCIS WILLIAMS hosta selboldiana – 'francis williams' 2 GALLON CONTAINER 4'–5' SPREAD; 24 INCH HEIGHT		P6	5	GERANIUM – JOHNSONS BLUE geranium x 'johnson's blue' 3 GALLON CONTAINER 24" SPREAD; 18" HEIGHT	
O1	5	CRAB APPLE – INDIAN SUMMER malus 'indian summer' 1 1/2" CALIPER 12'–15' SPREAD; 15'–20' HEIGHT	ORNAMENTAL TREES	P7	10	DIANTHUS – ROSHISH ONE dianthus 'rosish one' ppaf 1 GALLON CONTAINER 12" SPREAD; 10" HEIGHT	
O2	5	CRAB APPLE – SNOW DRIFT malus 'snow drift' 1 1/2" CALIPER 12'–15' SPREAD; 15'–20' HEIGHT		P8	15	COREOPSIS – ZAGREB coreopsis verticallata 2 GALLON CONTAINER 18" SPREAD; 15" HEIGHT	
T1	11	RED SUNSET MAPLE acer rubrum ' autumn flame' 2 1/2" CALIPER 40'–60' SPREAD; 40'–60' HEIGHT	SHADE TREES	G1	5	COLORADO BLUE SPRUCE picea pungens 6 FEET IN HEIGHT 10'–20' SPREAD; 30'–60' HEIGHT	EVERGREEN TREES
T2	5	NORTHERN RED OAK quercus borealis 2 1/2" CALIPER 50'–60' SPREAD; 50'–60' HEIGHT					
T3	12	SUNBURST HONEY LOCUST gleditsia triacanthos f. inermis 2 1/2" CALIPER 30'–40' SPREAD; 35'–45' HEIGHT					

LANDSCAPE NOTES

1. IRRIGATION SYSTEM TO BE DESIGN BUILD AND METERED SEPARATELY PER LOCAL REQUIREMENTS.
2. PROVIDE LANDSCAPING PER KEY AND PLAN, SHRUBS MAY BE SUBSTITUTED PER APPROVAL WITH THE ARCHITECT AND OWNER PROVIDING THE MICRO CLIMATE OR AVAILABILITY DICTATE A CHANGE. ALL REVISIONS ARE ALSO SUBJECT TO APPROVAL BY LOCAL AUTHORITY.
3. PROVIDE 4" OF TOP SOIL AT SODDED AND PLANTED AREAS. USE 1/3 ON-SITE TOP SOIL, 1/3 CLEAN FRIABLE SANDY-LOAM TOP SOIL & 1/3 COARSE SAND.
4. PROVIDE 3" DEPTH SHREDDED HARDWOOD MULCH AT A 4 FOOT DIAMETER AT ORNAMENTAL TREES AND 3 FOOT DIAMETER AT ALL SHRUBS. MULCHED AREAS TO BE COMBINED IN APPROPRIATE SHAPES AND SIZES AT GROUPINGS OF TREES AND SHRUBS.
5. PROVIDE 3" DEPTH HARDWOOD MULCH IN OTHER AREAS INDICATED.
6. TIE AND STAKE ALL TREES WITH 3 STAKES PER TREE. ALL STAKES TO BE REMOVED WITHIN 1 YEAR.
7. FERTILIZE ALL TREES WITH AGRIFORM 21 GRAM TABLETS, SLOW RELEASE 20 TO 15 ANALYSIS WITH ONE TABLET PER 1/2" OF CALIPER.
8. LANDSCAPE SUB SHALL REMOVE ALL TAGS AND BINDINGS AFTER PLANTING.
9. SHREDDED HARDWOOD MULCH IS NOT ALLOWED WITHIN 3 FEET OF THE BUILDING WALL. SUBSTITUTE 3" DEEP L.S. STONE AROUND PLANTINGS AT ALL LOCATIONS NEXT TO THE BUILDING.

HOTEL DEVELOPMENT SERVICES, LLC

125 WEST SPRING STREET
OXFORD, OH 45056
PHONE: 513–524–9500

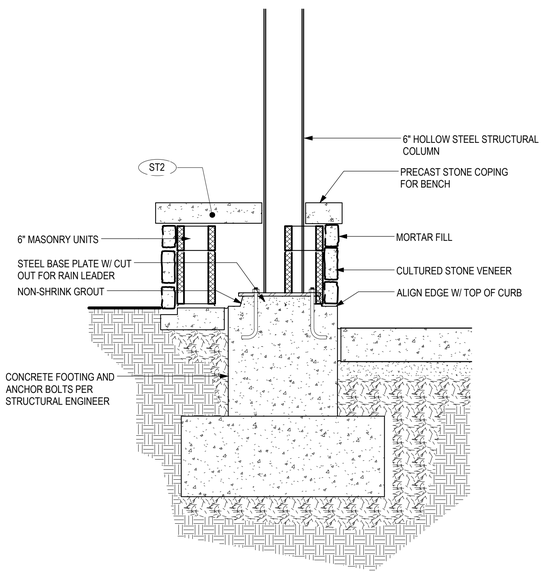
Revisions
1
2
3

FAIRFIELD INN & SUITES
350 PARIS DRIVE
FRANKLIN, IN 46131

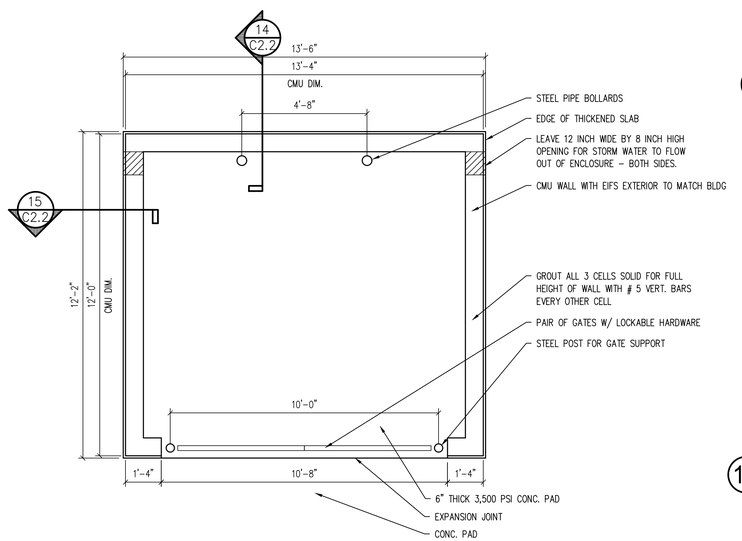
LANDSCAPE PLAN

DATE: SEPTEMBER 8, 2017

C2.1



18 BENCH SECTION
SCALE: N.T.S.



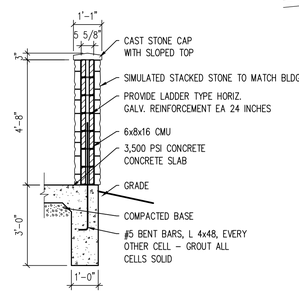
17 DUMPSTER ENCLOSURE PLAN
SCALE: 3/4" = 1'-0"

SIGN VENDOR TO SUPPLY CUTSHEETS SHOWING COLORS AND MATERIALS

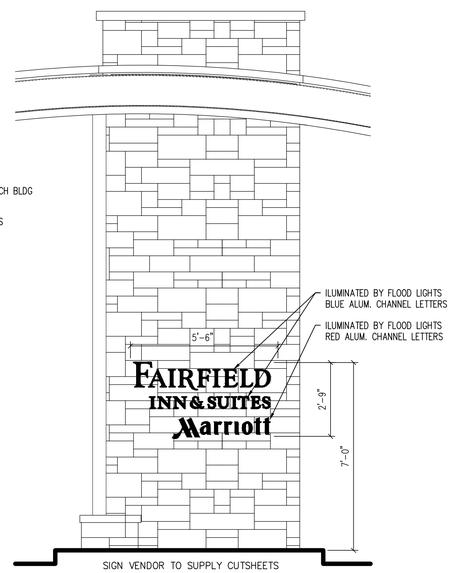
TO BE SUBMITTED AND REVIEWED UNDER SEPARATE PERMIT PROCESS

(TYPICAL OF TWO)

10 BUILDING WALL SIGN
SCALE: 3/4" = 1'-0"



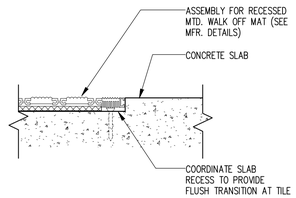
11 PATIO WALL SECTION
SCALE: 3/4" = 1'-0"



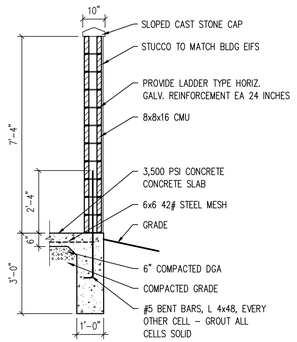
SIGN VENDOR TO SUPPLY CUTSHEETS SHOWING COLORS AND MATERIALS

TO BE SUBMITTED AND REVIEWED UNDER SEPARATE PERMIT PROCESS

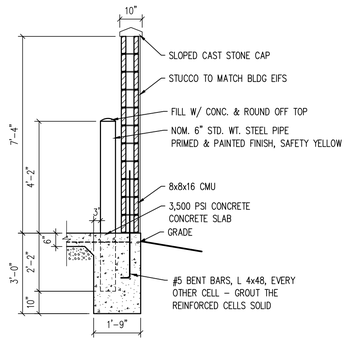
9 CANOPY WALL SIGN
SCALE: 3/4" = 1'-0"



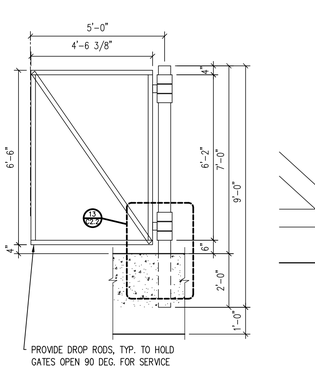
16 RECESSED MAT DETAIL
SCALE: N.T.S.



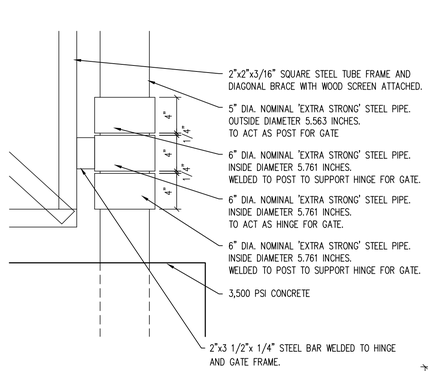
15 DUMPSTER ENCLOSURE SECTION
SCALE: 3/4" = 1'-0"



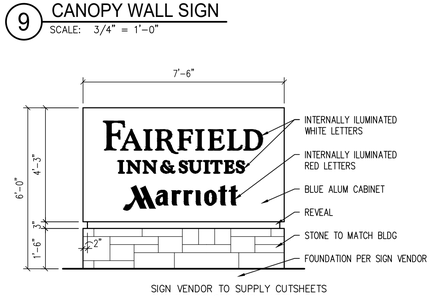
14 STEEL PIPE BOLLARD
SCALE: 3/4" = 1'-0"



13 DUMPSTER GATE DETAIL
SCALE: 3/4" = 1'-0"



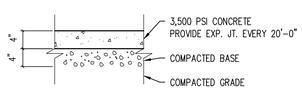
12 DUMPSTER HINGE DETAIL
SCALE: N.T.S.



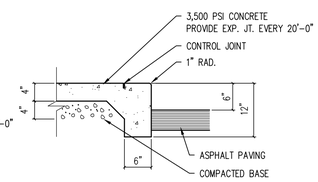
SIGN VENDOR TO SUPPLY CUTSHEETS SHOWING COLORS AND MATERIALS

TO BE SUBMITTED AND REVIEWED UNDER SEPARATE PERMIT PROCESS

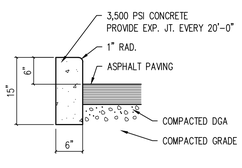
8 MONUMENT SIGN
SCALE: 3/4" = 1'-0"



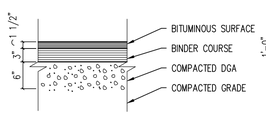
VERIFY WITH CIVIL DRAWINGS
1 SIDEWALK DETAIL
SCALE: 3/4" = 1'-0"



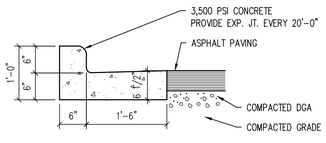
VERIFY WITH CIVIL DRAWINGS
2 TURN-DOWN SIDEWALK DETAIL
SCALE: 3/4" = 1'-0"



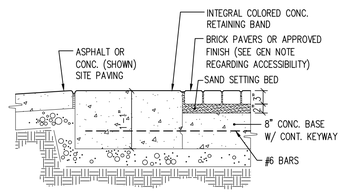
VERIFY WITH CIVIL DRAWINGS
3 STAND UP CURB DETAIL
SCALE: 3/4" = 1'-0"



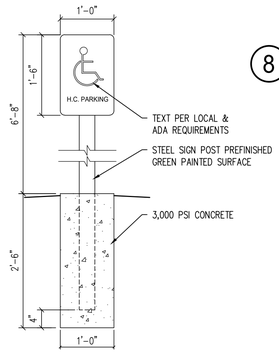
VERIFY WITH CIVIL DRAWINGS
4 ASPHALT PAVING DETAIL
SCALE: 3/4" = 1'-0"



VERIFY WITH CIVIL DRAWINGS
5 CURB & GUTTER DETAIL
SCALE: 3/4" = 1'-0"



VERIFY WITH CIVIL DRAWINGS
6 DECORATIVE PAVING DETAIL
SCALE: 3/4" = 1'-0"



7 H.C. PARKING SIGN
SCALE: 3/4" = 1'-0"

MARK A. CARLSEN, ARCHITECT

Revisions
1
2
3

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FAIRFIELD INN & SUITES
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SITE DETAILS

DATE: SEPTEMBER 8, 2017

C2.2