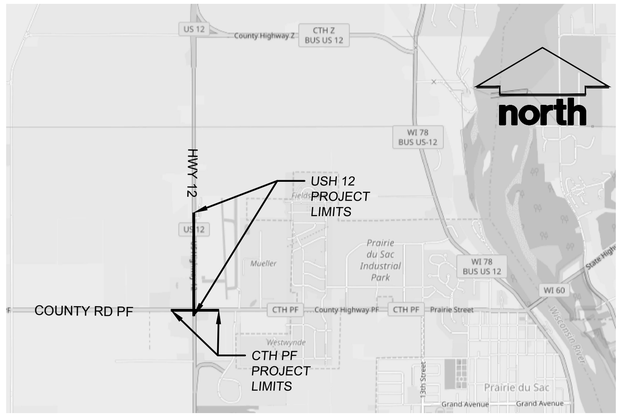
OFFSITE IMPROVEMENTS

PRAIRIE DU SAC, SAUK CO., WI

NOVEMBER 7th, 2018



LOCATION MAP

SITE MAP

SHEET INDEX

C0.0	TITLE SHEET
C0.1	EXISTING CONDITIONS
C1.0	GENERAL NOTES
C2.0	PROJECT OVERVIEW
C2.1	TRUCK TURNING
C3.0 - C3.4	TYPICAL SECTIONS
C4.0 - C4.1	DETAILS
C5.0 - C5.1	LAYOUT PLAN
C6.0 - C6.2	GRADING AND DRAINAGE PLANS
C7.0 - C7.2	EROSION CONTROL PLAN
C8.0 - C8.1	REMOVAL PLAN
C9.0 - C9.1	SIGNING AND STRIPING PLAN
C9.2	TRAFFIC SIGNAL PLAN
C10.0 - C10.5	TRAFFIC CONTROL PLAN - PHASE I, II, & III
C11.0 - C11.9	CROSS SECTIONS
PP1.0 - PP3.0	PUBLIC UTILITY EXTENSION PLAN & PROFILE
PP4.0	OFFSITE UTILITY DETAILS

REFERENCE BENCHMARK:

SOUTHWEST CORNER OF THE SOUTHWEST 1/4 OF SECTION 35, TOWNSHIP 10 NORTH, RANGE 06 EAST, BRASS CAP.
ELEVATION = 821.15

CIVIL ENGINEER
JSD PROFESSIONAL SERVICES, INC.
RIZAL ISKANDARSJACH, P.E., P.L.S.
SENIOR PROJECT ENGINEER
W238 N1610 BUSSE RD, SUITE 100
WAUKESHA, WI 53188
PHONE: 262-513-0666
FAX: 262-513-1232
EMAIL: RIZ@JSDINC.COM
WWW.JSDINC.COM

WISCONSIN PAUL S. MARTENS E-35038-006 WAUKESHA, WI PROFESSIONAL ENGINEER

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-07-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
TITLE SHEET
DATE 11-07-18

SHEET NUMBER:
C0.0

JSD PROJECT NO: 16-7186

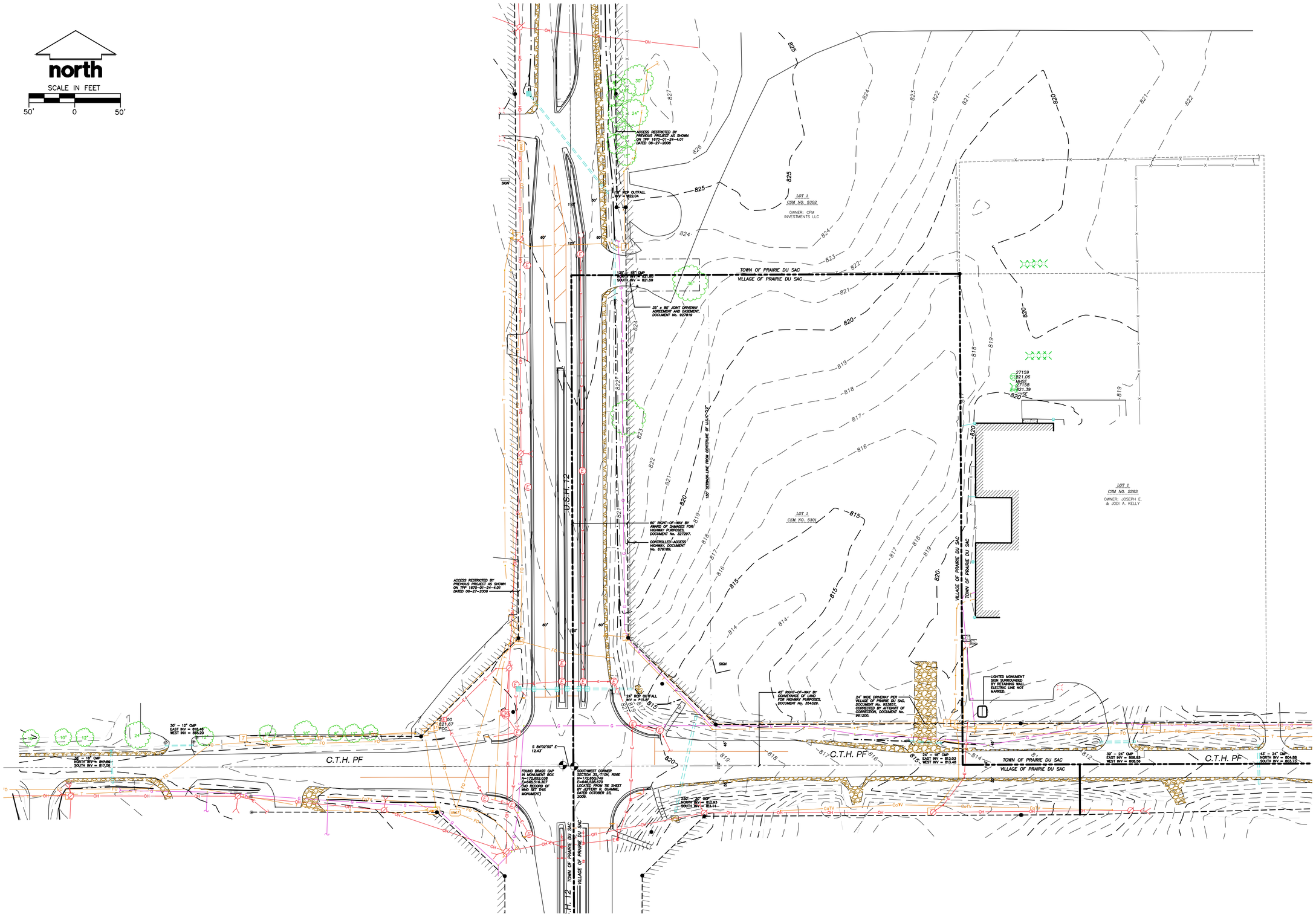
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 COVER Offsite.dwg Layout: COVER User: lnewmon Plotted: Nov 09, 2018 - 10:47am Xrefs:

north

SCALE IN FEET

50' 0 50'



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
EXISTING CONDITIONS
DATE 11-07-18

SHEET NUMBER:
C-0.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Existing.dwg Layout: C-0.0 User: inewman Plotted: Nov 09, 2018 – 10:48am Xref's:

GENERAL NOTES AND SPECIFICATIONS

1. THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORK CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
4. THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES DISCOVERED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON THEIR OWN COMPUTATIONS AND UNDER NO CIRCUMSTANCES BE BASED ON THE ENGINEER'S ESTIMATE.
6. QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
7. PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.
8. COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN THEIR ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
9. SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT, ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
10. THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS IN OBTAINING PERMITS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
11. THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND "DIGGER'S HOTLINE" IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS. CONTRACTOR IS RESPONSIBLE TO DETERMINE WHICH ORDINANCES/CODES/RULES/ETC. ARE APPLICABLE.
12. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK.
13. CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL 'GOOD HOUSEKEEPING.'
14. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, JSD, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
15. ALL FIELD/DRAIN TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE IMMEDIATELY REPORTED TO ENGINEER/OWNER. TILES ORIGINATING OUTSIDE THE PROJECT LIMITS SHALL BE RECONNECTED OR REROUTED TO MAINTAIN DRAINAGE. ENGINEER/OWNER SHALL DETERMINE THE MOST FAVORABLE METHOD OF RE-ESTABLISHMENT OF OFFSITE DRAINAGE. IF TILE IS ENCOUNTERED DURING TRENCH EXCAVATIONS, RE-ESTABLISHING TILE FUNCTIONALITY SHALL BE CONSIDERED AN INCIDENTAL EXPENSE.

GRADING NOTES

1. CONTRACTOR SHALL VERIFY ALL GRADES, ENSURE ALL AREAS DRAIN PROPERLY AND REPORT ANY DISCREPANCIES TO JSD PROFESSIONAL SERVICES, INC. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
2. ALL EXISTING CONTOURS REPRESENT EXISTING SURFACE GRADES UNLESS OTHERWISE NOTED. ALL PROPOSED GRADES SHOWN ARE FINISH SURFACE GRADES UNLESS OTHERWISE NOTED.
3. ALL EXCAVATIONS AND MATERIAL PLACEMENT SHALL BE COMPLETED TO DESIGN ELEVATIONS AS DEPICTED IN THE PLANS.
   - CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATION(S) OF ALL GRADING QUANTITIES. WHILE JSD ATTEMPTS TO PROVIDE A COST EFFECTIVE APPROACH TO BALANCE EARTHWORK, GRADING DESIGN IS BASED ON MANY FACTORS, INCLUDING SAFETY, AESTHETICS, AND COMMON ENGINEERING STANDARD OF CARE, THEREFORE NO GUARANTEE CAN BE MADE FOR A BALANCED SITE.
   - THE CONTRACTOR MAY SOLICIT APPROVAL FROM ENGINEER/OWNER TO ADJUST FINAL GRADES FROM DESIGN GRADES TO PROVIDE AN OVERALL SITE BALANCE AS A RESULT OF FIELD CONDITIONS.
4. GRADING ACTIVITIES SHALL BE IN A MANNER TO ALLOW POSITIVE DRAINAGE ACROSS DISTURBED SOILS, WHICH MAY INCLUDE EXCAVATION OF TEMPORARY DITCHES TO PREVENT PONDING, AND IF NECESSARY PUMPING TO ALLEVIATE PONDING. CONTRACTOR SHALL PREVENT SURFACE WATER FROM ENTERING INTO EXCAVATIONS. IN NO WAY SHALL OWNER BE RESPONSIBLE FOR REMEDIATION OF UNSUITABLE SOILS CREATED/ORIGINATED AS A RESULT OF IMPROPER SITE GRADING OR SEQUENCING. CONTRACTOR SHALL SEQUENCE GRADING ACTIVITIES TO LIMIT EXPOSURE OF DISTURBED SOILS DUE TO WEATHER.
5. THE CONTRACTOR IS RESPONSIBLE FOR MEETING MINIMUM COMPACTION STANDARDS. THE CONTRACTOR SHALL NOTIFY ENGINEER/OWNER IF PROPER COMPACTION CANNOT BE OBTAINED. THE PROJECT'S GEOTECHNICAL CONSULTANT SHALL DETERMINE WHICH IN-SITU SOILS ARE TO BE CONSIDERED UNSUITABLE SOILS. THE ENGINEER/OWNER AND GEOTECHNICAL TESTING CONSULTANT WILL DETERMINE IF REMEDIAL MEASURES WILL BE NECESSARY.
6. IN THE EVENT THAT ANY MOISTURE-DENSITY TEST(S) FAIL TO MEET SPECIFICATION REQUIREMENTS, THE CONTRACTOR SHALL PERFORM CORRECTIVE WORK AS NECESSARY TO BRING THE MATERIAL INTO COMPLIANCE AND RETEST THE FAILED AREA AT NO COST TO THE OWNER.
7. WITH THE AUTHORIZATION OF THE ENGINEER/OWNER, MATERIAL THAT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD ON FILL AREAS IN AN EFFORT TO DRY. CONTRACTOR SHALL CLEARLY FIELD MARK THE EXTERIOR LIMITS OF SPREAD MATERIAL WITH PAINTED LATH AND SUBMIT A PLAN TO THE ENGINEER/OWNER THAT IDENTIFIES THE LIMITS. UNDER NO CONDITION SHALL THE SPREAD MATERIAL DEPTH EXCEED THE MORE RESTRICTIVE OF: THE EFFECTIVE TREATMENT DEPTH OF MACHINERY THAT WILL BE USED TO TURNOVER THE SPREAD MATERIAL; OR THE MAXIMUM COMPACTION LIFT DEPTH.
8. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER/OWNER IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION.
9. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ADEQUATE AND SAFE TEMPORARY SHORING, BRACING, RETENTION STRUCTURES, AND EXCAVATIONS.
10. THE SITE SHALL BE COMPLETED TO WITHIN 0.10-FT (+/-) OF THE PROPOSED GRADES AS INDICATED WITHIN THE PLANS PRIOR TO PLACEMENT OF TOPSOIL OR STONE. CONTRACTOR IS ENCOURAGED TO SEQUENCE CONSTRUCTION SUCH THAT THE SITE IS DIVIDED INTO SMALLER AREAS TO ALLOW STABILIZATION OF DISTURBED SOILS IMMEDIATELY UPON COMPLETION OF INDIVIDUAL SMALLER AREAS.
11. CONTRACTOR SHALL CONTACT "DIGGER'S HOTLINE" FOR LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES AND SHALL BE RESPONSIBLE FOR PROTECTING SAID UTILITIES FROM ANY DAMAGE DURING CONSTRUCTION.
12. CONTRACTOR SHALL PROTECT INLETS AND ADJACENT PROPERTIES WITH SILT FENCING OR APPROVED EROSION CONTROL METHODS UNTIL CONSTRUCTION IS COMPLETED. CONTRACTOR SHALL PLACE SILT FENCING AT DOWN SLOPE SIDE OF GRADING LIMITS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING FACILITIES OR UTILITIES. ANY DAMAGE SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
14. WORK WITHIN ANY ROADWAY RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE WISDOT AND MUNICIPAL OFFICIALS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FEES. GRADING WITHIN RIGHT-OF-WAY IS SUBJECT TO APPROVAL BY SAID OFFICIALS. RESTORATION OF RIGHT-OF-WAY IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF GRADING. RESTORATION SHALL INCLUDE ALL ITEMS NECESSARY TO RESTORE RIGHT-OF-WAY IN-KIND INCLUDING LANDSCAPING.
15. CONTRACTOR SHALL COMPLY WITH ALL VILLAGE AND/OR STATE CONSTRUCTION STANDARDS/ORDINANCES.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL CONSTRUCTION SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN WISCONSIN'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER GENERAL PERMIT FOR CONSTRUCTION SITE LAND DISTURBANCE ACTIVITIES. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARDS (REFERRED TO AS BMP'S) AND LOCAL MUNICIPALITY ORDINANCE. THESE PROCEDURES AND STANDARDS SHALL BE REFERRED TO AS BEST MANAGEMENT PRACTICES (BMP'S). IT IS THE RESPONSIBILITY OF ALL CONTRACTORS ASSOCIATED WITH THE PROJECT TO OBTAIN A COPY OF, AND UNDERSTAND, THE BMP'S PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
2. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL CONTROL MEASURES AS DIRECTED BY JSD PROFESSIONAL SERVICES, INC. OR GOVERNING AGENCIES SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
3. MODIFICATIONS TO THE APPROVED EROSION CONTROL PLAN IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS ARE ALLOWED IF MODIFICATIONS CONFORM TO BMP'S. ALL MODIFICATIONS MUST BE APPROVED BY JSD/MUNICIPALITY PRIOR TO DEVIATION OF THE APPROVED PLAN.
4. INSTALL PERIMETER EROSION CONTROL MEASURES (SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION) PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE COVER, AS SHOWN ON PLAN IN ORDER TO PROTECT ADJACENT PROPERTIES/STORM SEWER SYSTEMS FROM SEDIMENT TRANSPORT.
5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATION(S) WITH THE PROPER AUTHORITIES, PROVIDE NECESSARY FEES AND OBTAIN ALL REQUIRED APPROVALS OR PERMITS. ADDITIONAL CONSTRUCTION ENTRANCES OTHER THAN AS SHOWN ON THE PLANS MUST BE PRIOR APPROVED BY THE APPLICABLE GOVERNING AGENCIES PRIOR TO INSTALLATION.
6. PAVED SURFACES ADJACENT TO CONSTRUCTION ENTRANCES SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL. DIRT AND/OR DUST AFTER THE END OF EACH WORK DAY AND AS REQUESTED BY THE GOVERNING AGENCIES.
7. ALL EXISTING STORM SEWER FACILITIES THAT WILL COLLECT RUNOFF FROM DISTURBED AREAS SHALL BE PROTECTED TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS. INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLET OF ALL INSTALLED STORM SEWER. ALL INLETS, STRUCTURES, PIPES, AND SWALES SHALL BE KEPT CLEAN AND FREE OF SEDIMENTATION AND DEBRIS.
8. EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.) OUTSIDE OF THE PERIMETER CONTROLS SHALL INCORPORATE THE FOLLOWING:
   - PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
   - BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
   - DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH BMP'S PRIOR TO RELEASE INTO STORM SEWER OR DITCHES.
9. AT A MINIMUM, SEDIMENT BASINS AND NECESSARY TEMPORARY DRAINAGE PROVISIONS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE BEGINNING OF SIGNIFICANT MASS GRADING OPERATIONS TO PREVENT OFFSITE DISCHARGE OF UNTREATED RUNOFF.
10. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR INSPECTION AND REPAIR DURING CONSTRUCTION. THE OWNER WILL BE RESPONSIBLE IF EROSION CONTROL IS REQUIRED AFTER THE CONTRACTOR HAS COMPLETED THE PROJECT.
11. TOPSOIL STOCKPILES SHALL HAVE A BERM OR TRENCH AROUND THE CIRCUMFERENCE AND PERIMETER SILT FENCE TO CONTROL SILT. IF TOPSOIL STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IS REQUIRED.
12. EROSION CONTROL MEASURES TEMPORARILY REMOVED FOR UNAVOIDABLE CONSTRUCTION ACTIVITIES SHALL BE IN WORKING ORDER PRIOR TO THE COMPLETION OF EACH WORK DAY.
13. MAINTAIN SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THIS PROJECT. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. DISTURBANCES ASSOCIATED WITH EROSION CONTROL REMOVAL SHALL BE IMMEDIATELY STABILIZED.
14. PUMPS MAY BE USED AS BYPASS DEVICES. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS.
15. GRADING EFFORTS SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. EROSION AND SEDIMENT CONTROL MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS, AND THE USE OF TEMPORARY OR PERMANENT MEASURES. **TEMPORARY STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING FOURTEEN (14) CALENDAR DAYS IN ACCORDANCE WITH TECHNICAL STANDARDS.** SEEDING FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH TECHNICAL STANDARDS.
16. ALL DISTURBED SLOPES EXCEEDING 4:1 YET LESS THAN 3:1, SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75BN EROSION MATTING (OR APPROVED EQUAL) AND DISTURBED SLOPES EXCEEDING 3:1 YET LESS THAN 2:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN C125BN (OR APPROVED EQUAL) OR APPLICATION OF AN APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
17. DURING PERIODS OF EXTENDED DRY WEATHER, THE CONTRACTOR SHALL KEEP A WATER TRUCK ON SITE FOR THE PURPOSE OF WATERING DOWN SOILS WHICH MAY OTHERWISE BECOME AIRBORNE. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WIND EROSION (DUST) DURING CONSTRUCTION AT HIS/HER EXPENSE.
18. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE VISUALLY INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM ON A DAILY BASIS.
19. QUALIFIED PERSONNEL (PROVIDED BY THE GENERAL/PRIME CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED AND EROSION AND SEDIMENT CONTROLS WITHIN 24 HOURS OF ALL 0.5-INCH, OR MORE, PRECIPITATION EVENTS WITH A MINIMUM INSPECTION INTERVAL OF ONCE EVERY SEVEN (7) CALENDAR DAYS IN THE ABSENCE OF A QUALIFYING RAIN OR SNOWFALL EVENT. **INSPECTIONS AND REPORTING SHALL BE IN ACCORDANCE WITH SECTION 4.5 OF THE WPDES GENERAL PERMIT, PERMIT NO. WI-S067831-5 AND CONSTRUCTION SITE INSPECTION REPORT FORM 3400-187.** CONTRACTOR SHALL IMMEDIATELY ARRANGE TO HAVE ANY DEFICIENT ITEMS REVEALED DURING INSPECTIONS REPAIRED/REPLACED.
20. THE FOLLOWING MAINTENANCE PRACTICES SHALL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATING CONDITIONS, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN. UPON IDENTIFICATION, DEFICIENCIES IN STORMWATER CONTROLS SHALL BE ADDRESSED IMMEDIATELY. THE MAINTENANCE PROCEDURES FOR THIS DEVELOPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO THE BELOW.

   - SILT FENCE - REPAIR OR REPLACE ANY DAMAGED FILTER FABRIC AND/OR STAKES. REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
   - CONSTRUCTION ENTRANCE - AS NEEDED, ADD STONE TO MAINTAIN CONSTRUCTION ENTRANCE DIMENSIONS AND EFFECTIVENESS.
   - DITCH CHECK (STRAW BALES) - RE-SECURE STAKES; ADJUST OR REPOSITION BALES TO ADDRESS PROPER FLOW OF STORMWATER; AND REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE HEIGHT OF THE BALE.
   - EROSION CONTROL MATTING - REPAIR MATTING IMMEDIATELY IF INSPECTION REVEALS BREACHED OR FAILED CONDITIONS. REPAIR AND RE-GRADE SOIL WHERE CHANNELIZATION HAS OCCURRED.
   - DIVERSION BERM/SWALE - REPLACE OR RE-COMPACT THE CONSTRUCTION MATERIALS AS NECESSARY.
   - INLET PROTECTION - CLEAN, REPAIR OR REPLACE FILTER FABRIC AND/OR STONE WHEN CONTROL MEASURE IS CLOGGED. INLET FILTER BAGS SHALL BE REPLACED ONCE BAG BECOMES ONE-HALF FULL OF SEDIMENT.

   ADDITIONAL POLLUTANT CONTROL MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION ACTIVITIES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING.

   - CONSTRUCTION WASTE SHALL BE PROPERLY DISPOSED OF. THIS INCLUDES ALL CONSTRUCTION SITE WASTE MATERIAL, SANITARY WASTE, AND WASTE FROM VEHICLE TRACKING OF SEDIMENTS. THE CONTRACTOR SHALL ENSURE THAT NO MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, BURNED, OR DISCHARGED TO THE WATERS OF THE STATE. VEHICLES HAULING MATERIAL AWAY FROM THE SITE SHALL BE COVERED WITH A TARPAULIN TO PREVENT BLOWING DEBRIS.
   - DUST CONTROL SHALL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING METHODS:
     - A. COVERING 30% OR MORE OF THE SOIL SURFACE WITH A NON-ERODIBLE MATERIAL.
     - B. ROUGHENING THE SOIL TO PRODUCE RIDGES PERPENDICULAR TO THE PREVAILING WIND. RIDGES SHALL BE AT LEAST SIX (6) INCHES IN HEIGHT.
     - C. FREQUENT WATERING OF EXCAVATION AND FILL AREAS.
     - D. PROVIDING GRAVEL OR PAVING AT ENTRANCE/EXIT DRIVES, PARKING AREAS AND TRANSIT PATHS.
   - STREET SWEEPING SHALL BE PERFORMED TO IMMEDIATELY REMOVE ANY SEDIMENT TRACKED ON PAVEMENTS.

PAVING NOTES

1. ALL PAVING SHALL CONFORM TO "STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY & STRUCTURE CONSTRUCTION AND APPLICABLE LOCAL MUNICIPALITY ORDINANCES.
2. CONCRETE PAVING SPECIFICATIONS-

   CODES AND STANDARDS - THE PLACING, CONSTRUCTION AND COMPOSITION OF THE CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 415 AND 416 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. HEREAFTER, THIS PUBLICATION WILL BE REFERRED TO AS STATE HIGHWAY SPECIFICATIONS.

   CRUSHED AGGREGATE BASE COURSE - THE BASE COURSE SHALL CONFORM TO SECTIONS 301 AND 305, STATE HIGHWAY SPECIFICATIONS. CLEAN RECYCLED CRUSHED CONCRETE MAY BE USE IF APPROVED BY GEOTECH ENGINEER OF RECORD.

   SURFACE PREPARATION - NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
3. ASPHALTIC CONCRETE PAVING SPECIFICATIONS-

   CODES AND STANDARDS - THE PLACING, CONSTRUCTION AND COMPOSITION OF THE ASPHALTIC BASE COURSE AND ASPHALTIC CONCRETE SURFACING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460 AND 465 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, EDITION OF 2005. HEREAFTER, THIS PUBLICATION WILL BE REFERRED TO AS STATE HIGHWAY SPECIFICATIONS.

   WEATHER LIMITATIONS - APPLY TACK COATS WHEN AMBIENT TEMPERATURE IS ABOVE 50° F (10° C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35° F (1° C) FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION. DO NOT APPLY WHEN BASE IS WET OR CONTAINS EXCESS OF MOISTURE. CONSTRUCT ASPHALTIC CONCRETE SURFACE COURSE WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40° F (4° C) AND WHEN BASE IS DRY AND WHEN WEATHER IS NOT RAINY. BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30° F (-1° C).

   GRADE CONTROL - ESTABLISH AND MAINTAIN REQUIRED LINES AND ELEVATIONS FOR EACH COURSE DURING CONSTRUCTION.

   CRUSHED AGGREGATE BASE COURSE - THE TOP LAYER OF BASE COURSE SHALL CONFORM TO SECTIONS 301 AND 305, STATE HIGHWAY SPECIFICATIONS. CLEAN RECYCLED CRUSHED CONCRETE MAY BE USE IF APPROVED BY GEOTECH ENGINEER OF RECORD.

   BINDER COURSE AGGREGATE - THE AGGREGATE FOR THE BINDER COURSE SHALL CONFORM TO SECTIONS 460.2.7 AND 315, STATE HIGHWAY SPECIFICATIONS.

   SURFACE COURSE AGGREGATE - THE AGGREGATE FOR THE SURFACE COURSE SHALL CONFORM TO SECTIONS 460.2.7 AND 465, STATE HIGHWAY SPECIFICATIONS.

   ASPHALTIC MATERIALS - THE ASPHALTIC MATERIALS SHALL CONFORM TO SECTION 455 AND 460, STATE HIGHWAY SPECIFICATIONS.

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

PAVEMENT STRIPING NOTES

1. CONTRACTOR SHALL CONSULT STRIPING COLOR WITH OWNER PRIOR TO CONSTRUCTION.
2. PROVIDE CONTRACTOR GRADE ACRYLIC, STRIPING PAINT FOR NEW ASPHALT OR COATED ASPHALT. ALL STRIPING SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. THOROUGHLY CLEAN SURFACES FREE OF DIRT, SAND, GRAVEL, OIL AND OTHER FOREIGN MATTER. CONTRACTOR RESPONSIBLE TO INSPECT PAVEMENT SURFACES FOR CONDITIONS AND DEFECTS THAT WILL ADVERSELY AFFECT QUALITY OF WORK, AND WHICH CANNOT BE PUT INTO AN ACCEPTABLE CONDITION THROUGH NORMAL PREPARATORY WORK AS SPECIFIED.
4. DO NOT PLACE MARKING OVER UNSOUND PAVEMENTS. IF THESE CONDITIONS EXIST, NOTIFY OWNER. STARTING INSTALLATION CONSTITUTES CONTRACTOR'S ACCEPTANCE OF SURFACE AS SUITABLE FOR INSTALLATION.
5. LAYOUT MARKINGS USING GUIDE LINES, TEMPLATES AND FORMS. STENCILS AND TEMPLATES SHALL BE PROFESSIONALLY MADE TO INDUSTRY STANDARDS. "FREE HAND" PAINTING OF ARROWS, SYMBOLS, OR WORDING SHALL NOT BE ALLOWED. APPLY STRIPES STRAIGHT AND EVEN.
6. PROTECT ADJACENT CURBS, WALKS, FENCES, AND OTHER ITEMS FROM RECEIVING PAINT.
7. APPLY MARKING PAINT AT A RATE OF ONE (1) GALLON PER THREE TO FOUR HUNDRED (300-400) LINEAL FEET OF FOUR (4) INCH WIDE STRIPES. (OR TO MFG. SPECIFICATION)
8. BARRICADE MARKED AREAS DURING INSTALLATION AND UNTIL THE MARKING PAINT IS DRIED AND READY FOR TRAFFIC.
9. ALL HANDICAPPED ACCESSIBLE PARKING SHALL BE LOCATED PER 2009 IBC 1106.6

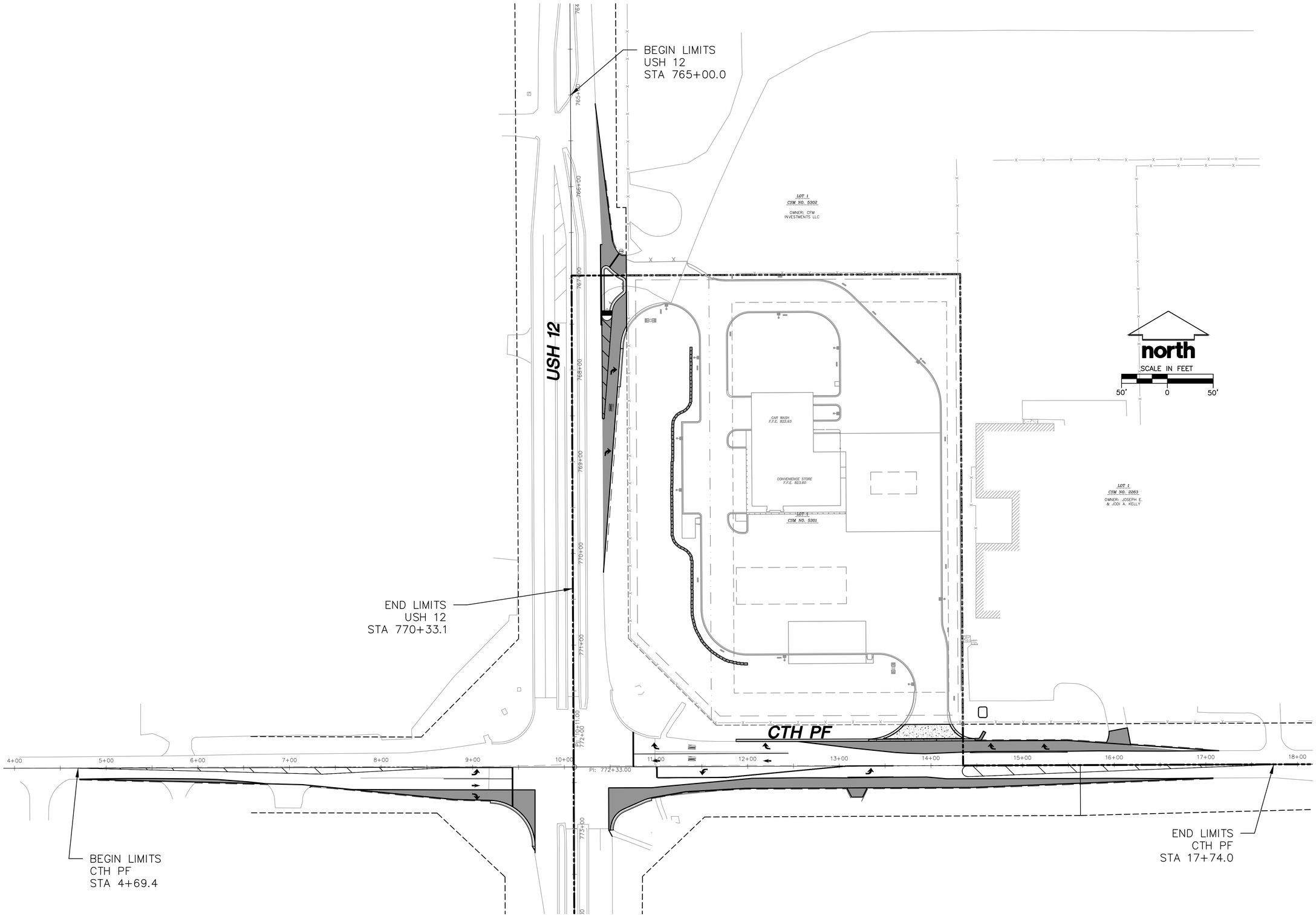
CONSTRUCTION SITE SEQUENCING

1. INSTALL PERIMETER SILT FENCE, EXISTING INLET PROTECTION, AND TEMPORARY CONSTRUCTION ENTRANCE.
2. STRIP EXISTING PAVEMENT. REMOVE DEMOLISHED PAVEMENT FROM SITE AND PROPERLY DISPOSE OF IN APPROVED FACILITY.
3. CONDUCT ROUGH GRADING EFFORTS.
4. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
5. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
6. PLACE TOPSOIL AND IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
7. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.

   CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

DEMOLITION NOTES

1. ALL DEMOLITION WORK SHALL BE IN COMPLIANCE WITH SAUK COUNTY REQUIREMENTS.
2. ALL DEBRIS SHALL BE REMOVED FROM THE SITE DAILY.
3. CONTRACTOR IS RESPONSIBLE TO NOTIFY SAUK COUNTY OFFICIALS FOR ANY WORK WITHIN PUBLIC RIGHTS-OF WAY AND APPLY FOR ALL APPROPRIATE PERMITS.
4. CONTRACTOR SHALL PROTECT SAUK COUNTY PAVEMENTS AND REPLACE IN ACCORDANCE WITH THE COUNTIES REQUIREMENTS IF DAMAGED.
5. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL DEMOLITION ITEMS AND QUANTITIES.
6. CONTRACTOR IS RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITY COMPANIES TO DETERMINE IF RELOCATION OF UTILITY POLES, TELEPHONE AND FIBER OPTICS BOXES, AND/OR OTHER UTILITIES WILL BE REQUIRED. CONTRACTOR SHALL NOTIFY OWNER FOR APPROVAL PRIOR TO RELOCATION OF SAID UTILITIES.
7. CONTRACTOR IS RESPONSIBLE FOR PROP



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

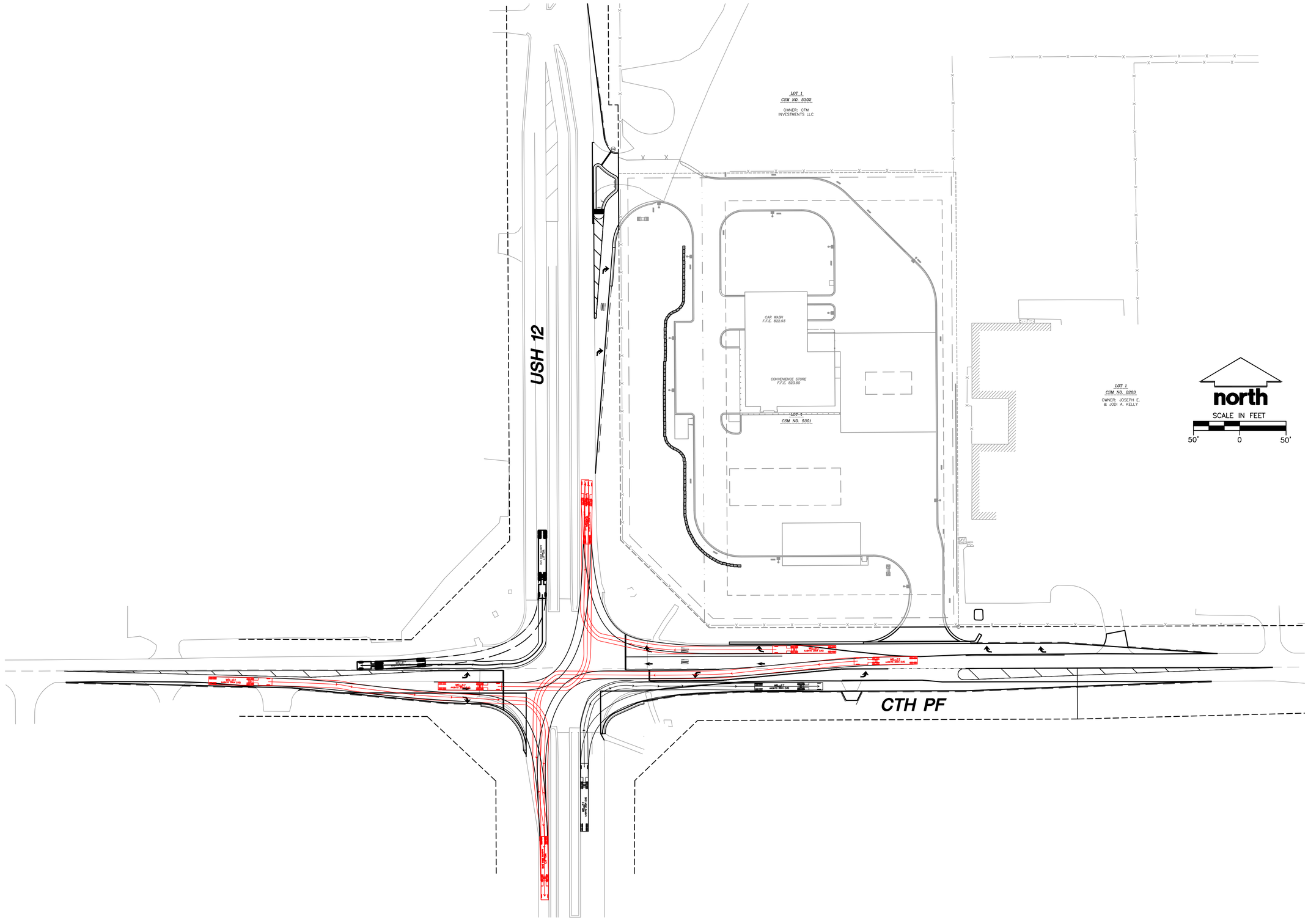
SHEET TITLE:
PROJECT OVERVIEW
DATE 11-07-18

SHEET NUMBER:
C-2.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Project Overview Offsite.dwg Layout: C-2.0 User: inewman Plotted: Nov 09, 2018 – 10:49am Xref's:



File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Project Overview Offsite.dwg Layout: C-2.1 User: inewman Plotted: Nov 09, 2018 - 10:49am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION | TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

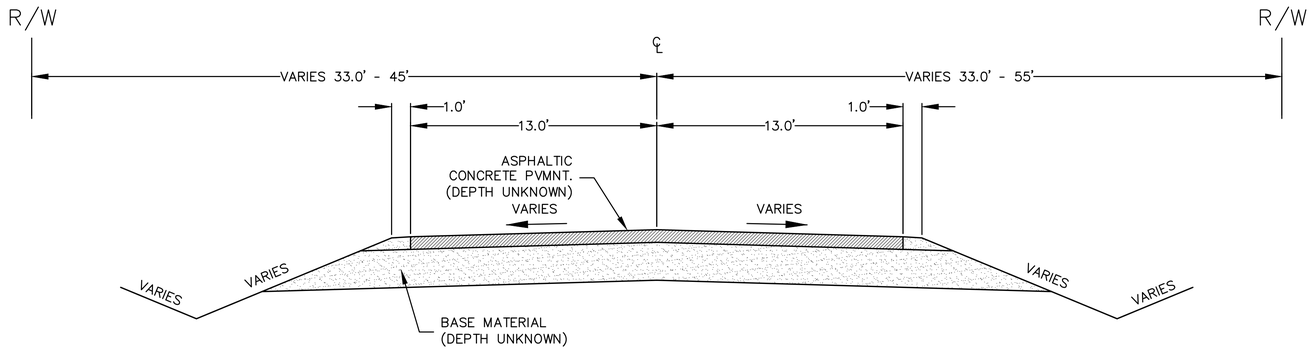
Design/Drawn:
Approved:

SHEET TITLE:
CTH PF & HWY 12 TRUCK TURNING
DATE 11-07-18

SHEET NUMBER:
C-2.1

JSD PROJECT NO: 16-7186

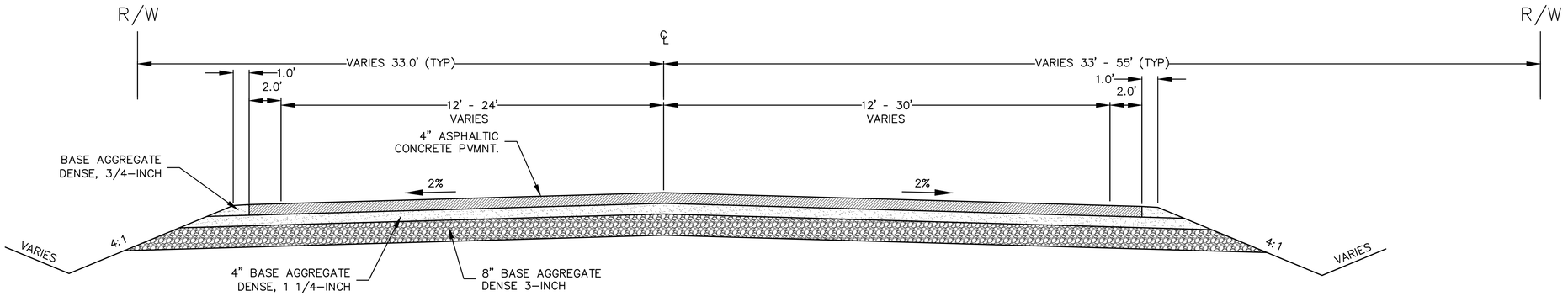
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.



TYPICAL EXISTING SECTION - CTH PF

STA 4+69.4 TO 6+00
STA 14+00 TO 17+74.0

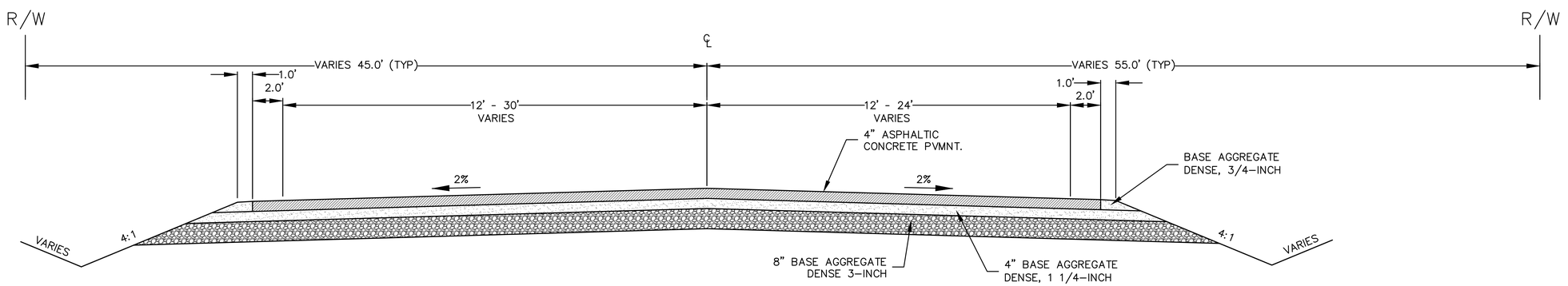
NTS



TYPICAL EXISTING SECTION - CTH PF

STA 6+00 TO 9+19

NTS



TYPICAL EXISTING SECTION - CTH PF

STA 9+19 TO 14+00

NTS

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

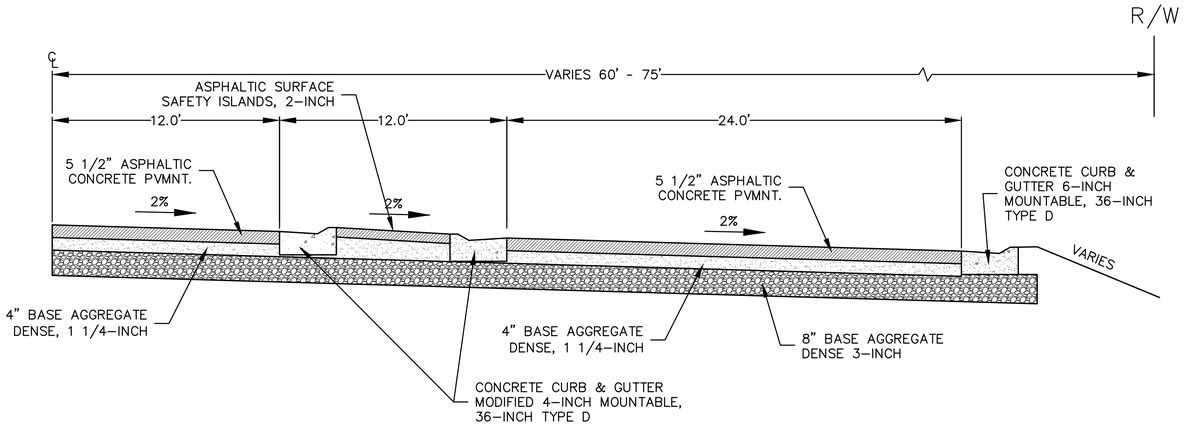
SHEET TITLE:
TYPICAL SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-3.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

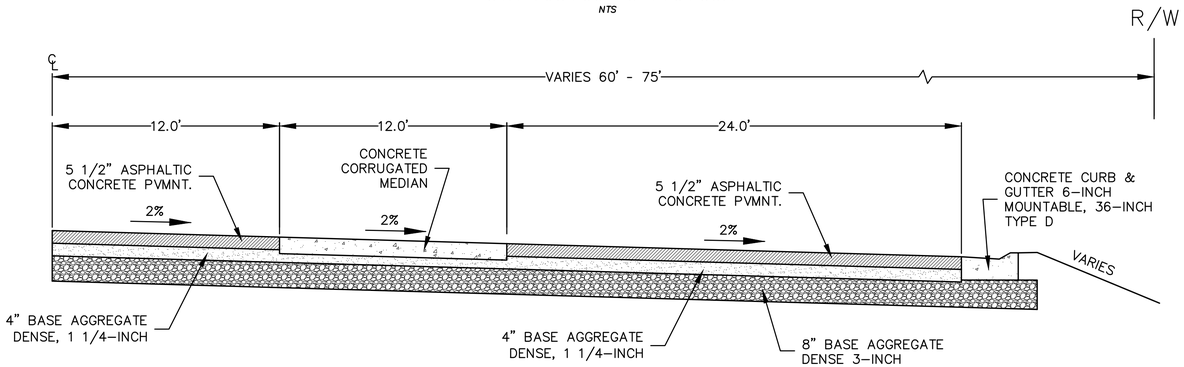
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 Typical Sections Offsite.dwg Layout: C-3.0 User: inewman Plotted: Nov 09, 2018 - 10:50am Xref's:



TYPICAL EXISTING PARTIAL SECTION - USH 12

STA 768+00 TO 770+33.1

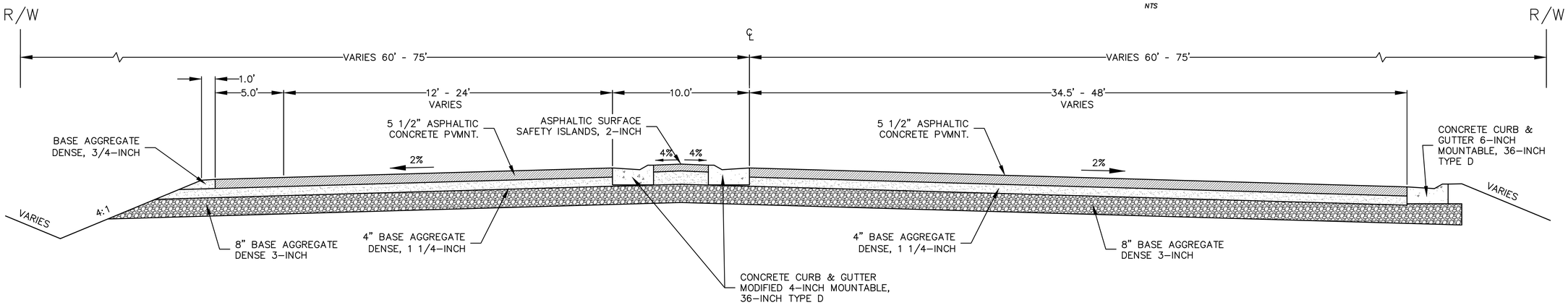
NTS



TYPICAL EXISTING PARTIAL SECTION - USH 12

STA 766+53.25 TO 768+00

NTS



TYPICAL EXISTING SECTION - USH 12

STA 765+00 TO 770+33.1

NTS

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

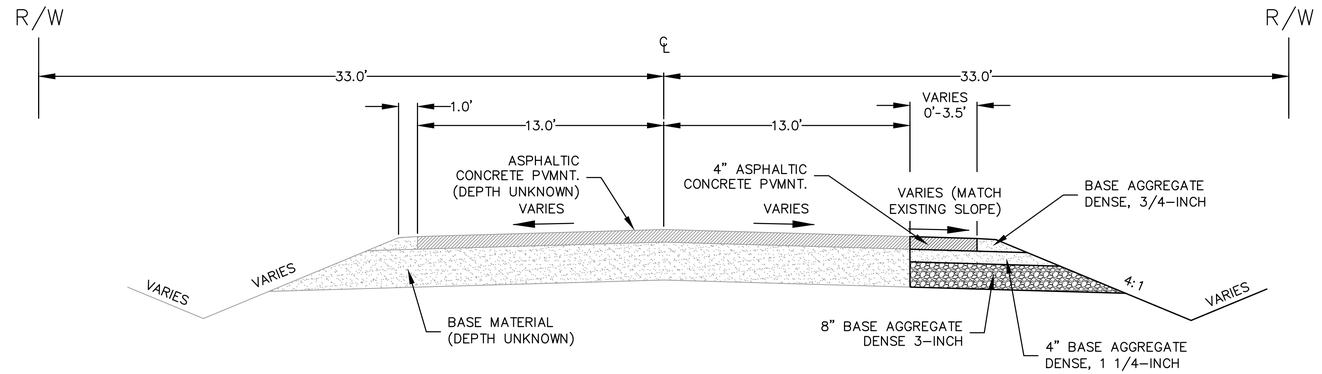
SHEET TITLE:
TYPICAL SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-3.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

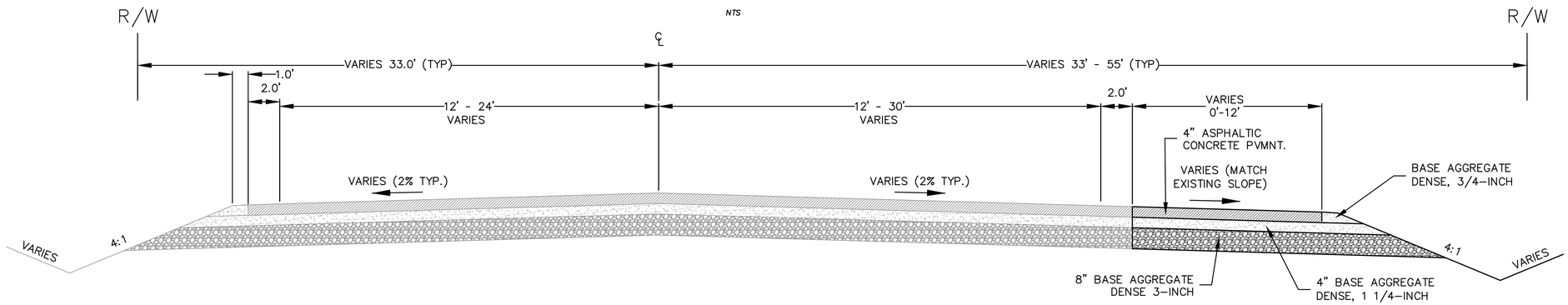
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 Typical Sections Offsite.dwg Layout: C-3.1 User: lnewman Plotted: Nov 09, 2018 - 10:50am Xref's:



TYPICAL PROPOSED SECTION - CTH PF

STA 4+69.4 TO 6+00

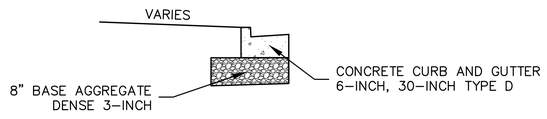
NTS



TYPICAL PROPOSED SECTION - CTH PF

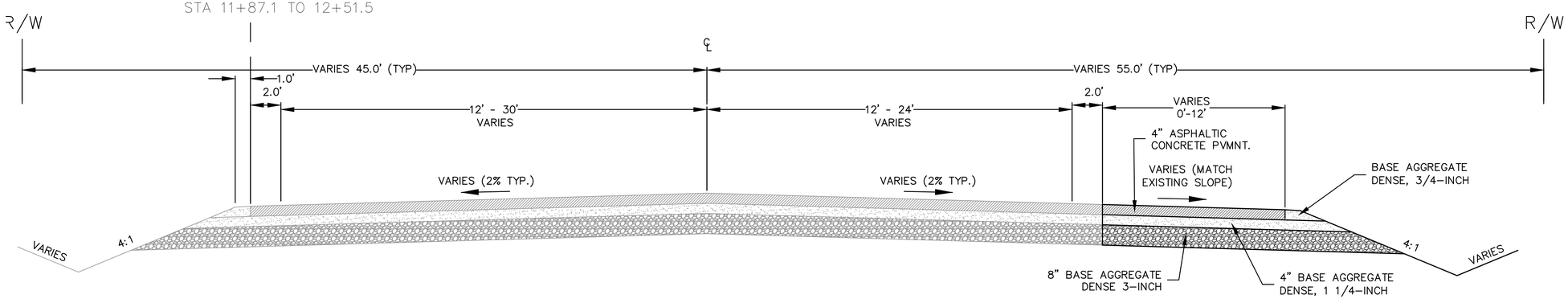
STA 6+00 TO 9+19

NTS



TYPICAL PROPOSED PARTIAL SECTION - CTH PF

STA 11+87.1 TO 12+51.5



TYPICAL PROPOSED SECTION - CTH PF

STA 9+19 TO 12+51.5

NTS

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

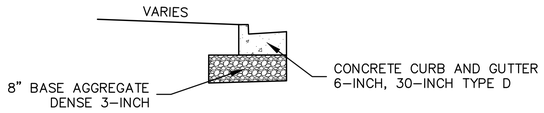
SHEET TITLE:
TYPICAL SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-3.2

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

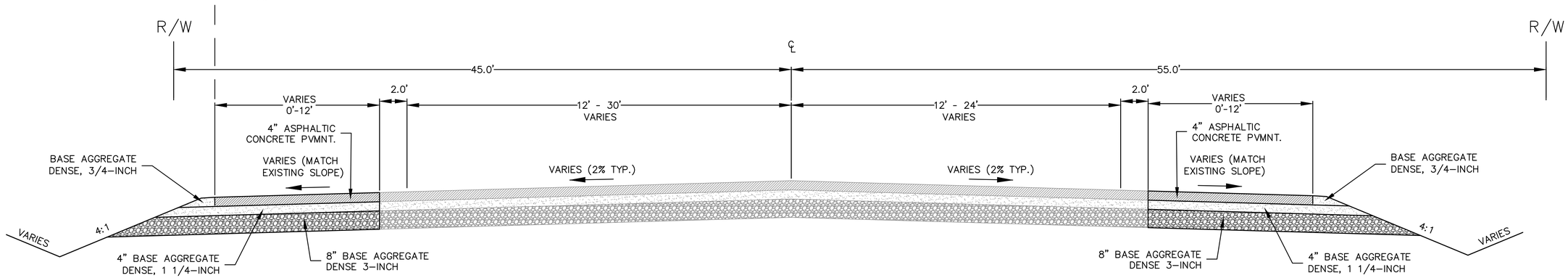
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 Typical Sections Offsite.dwg Layout: C-3.2 User: lnewman Plotted: Nov 09, 2018 - 10:50am Xref's:



TYPICAL PROPOSED PARTIAL SECTION - CTH PF

STA 12+51.5 TO 13+32.1

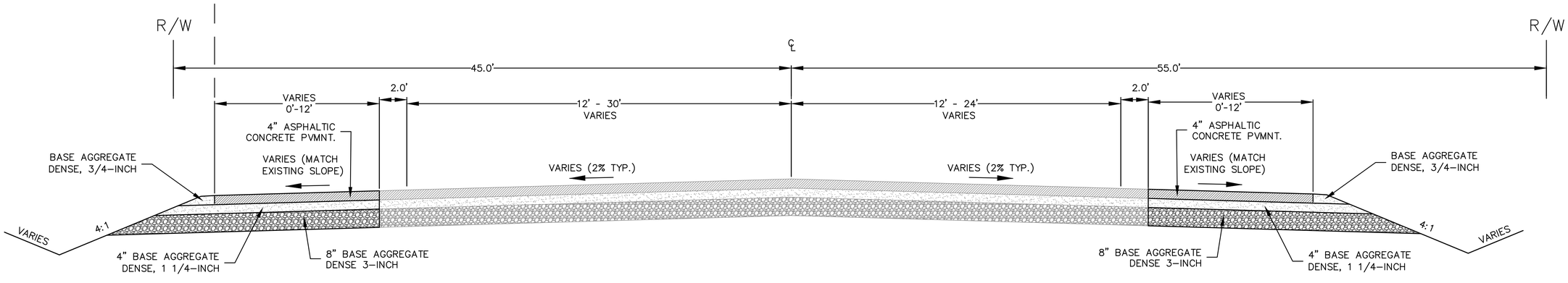
NTS



TYPICAL PROPOSED SECTION - CTH PF

STA 12+51.5 TO 14+00

NTS



TYPICAL PROPOSED SECTION - CTH PF

STA 14+00 TO 17+74.0

NTS

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

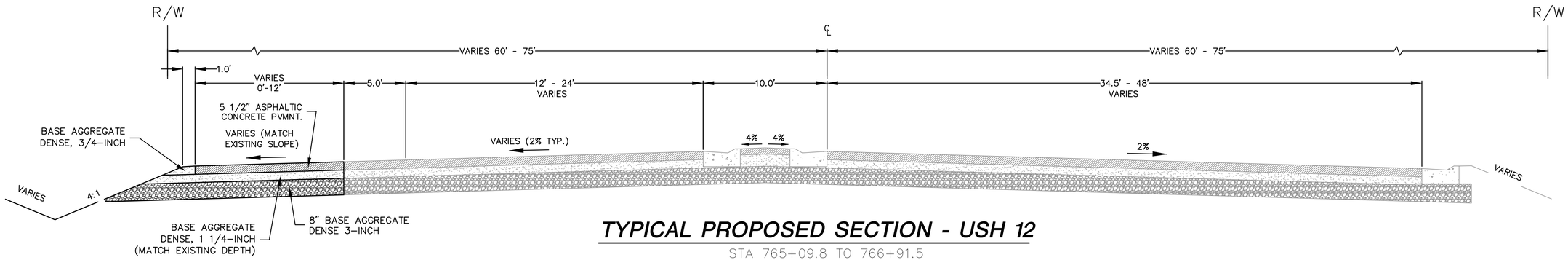
SHEET TITLE:
TYPICAL SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-3.3

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

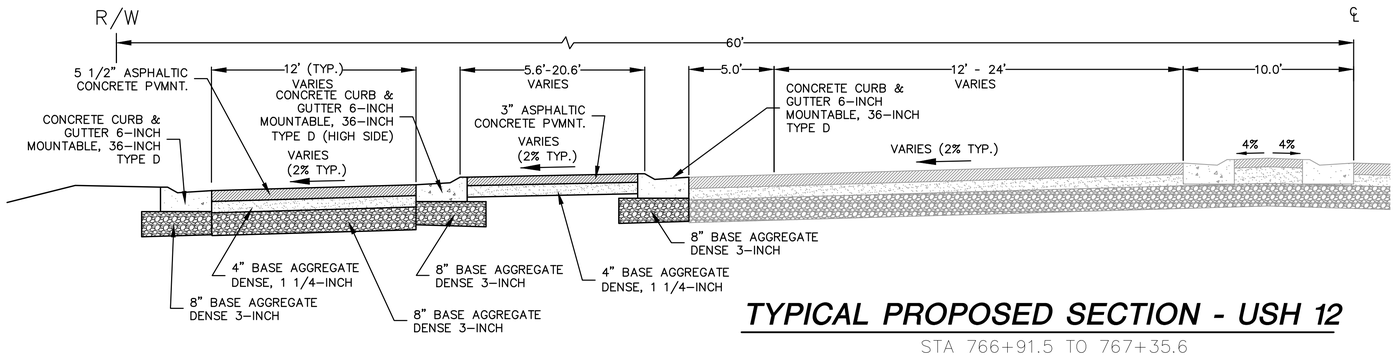
File: R:\2016\16-7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 Typical Sections Offsite.dwg Layout: C-3.3 User: lnewman Plotted: Nov 09, 2018 – 10:50am Xref's:



TYPICAL PROPOSED SECTION - USH 12

STA 765+09.8 TO 766+91.5

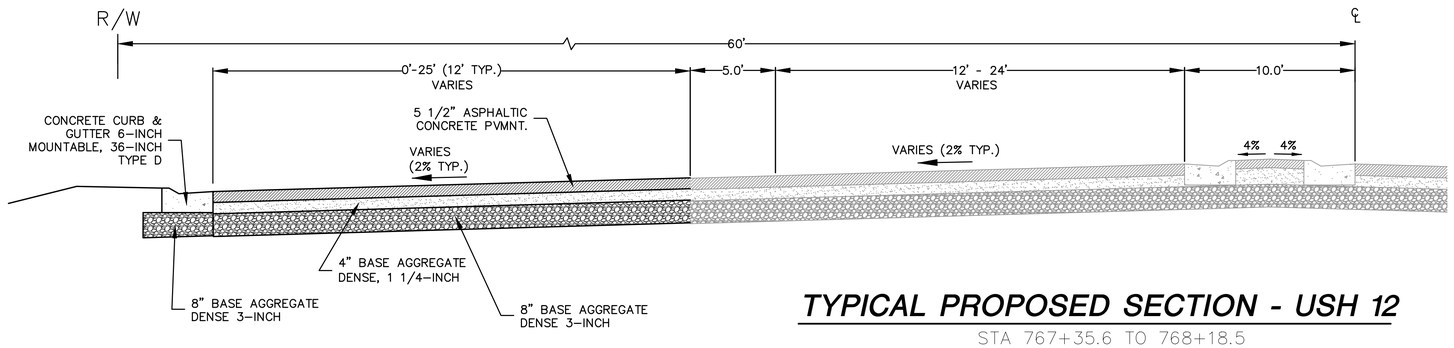
NTS



TYPICAL PROPOSED SECTION - USH 12

STA 766+91.5 TO 767+35.6

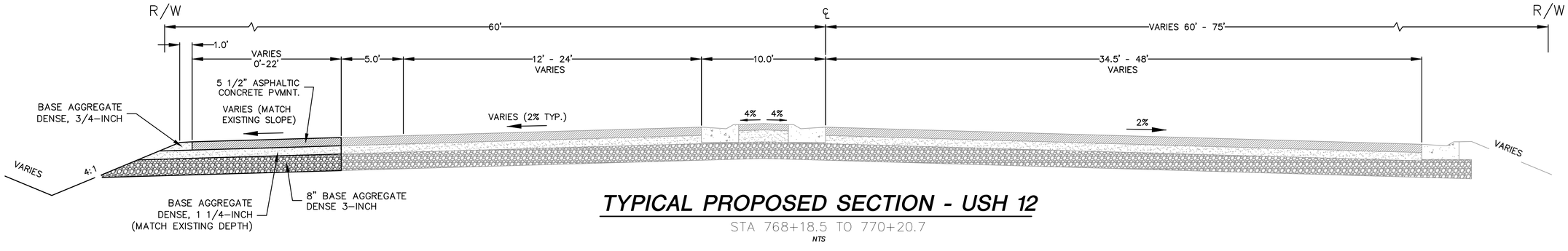
NTS



TYPICAL PROPOSED SECTION - USH 12

STA 767+35.6 TO 768+18.5

NTS



TYPICAL PROPOSED SECTION - USH 12

STA 768+18.5 TO 770+20.7

NTS

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
2	7-10-18	VILLAGE COMMENTS
3	7-23-18	BID ALTERNATE
4	8-23-18	VILLAGE COMMENTS
	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

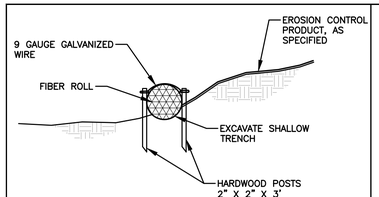
SHEET TITLE:
TYPICAL SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-3.4

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

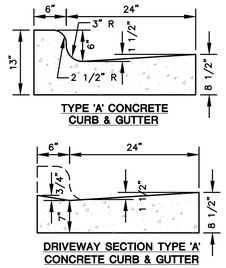
File: R:\2016\16-7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 Typical Sections Offsite.dwg Layout: C-3.4 User: lnewman Plotted: Nov 09, 2018 - 10:50am Xref's:



GENERAL NOTES:

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS.
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2" X 2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED.

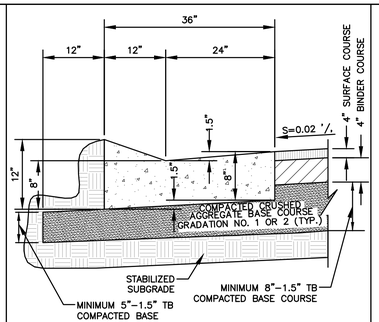
FIBER SILT LOG
N.T.S.



GENERAL NOTES:

1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 6' 1N LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER. THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 1/2" THICK.
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE

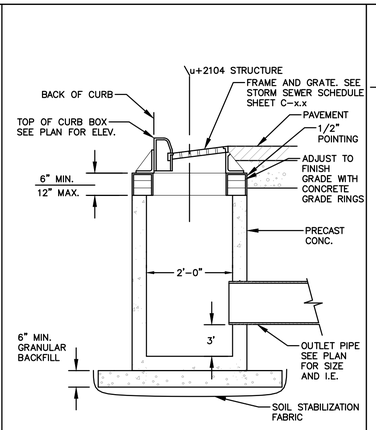
30" DRIVEWAY SECTION CURB & GUTTER
N.T.S.



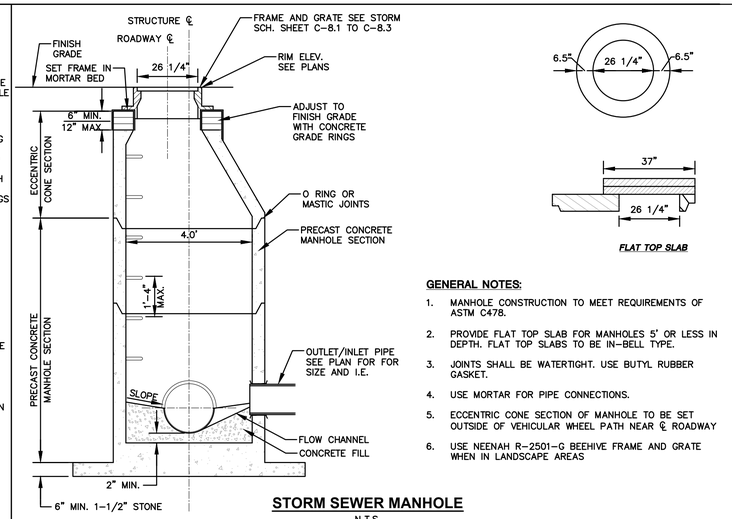
GENERAL NOTES:

1. CONTRACTION JOINT 10 FOOT O.C., JOINT SHALL BE 0.25 INCH WIDE.
2. A 0.75 INCH TO 1 INCH EXPANSION JOINT (FELT) SHALL BE CONSTRUCTED NOT MORE THAN 300 FEET APART, AT P.C. POINTS AND 5 FEET EITHER SIDE OF INLET STRUCTURES.
3. WHERE NEW CONCRETE MEETS WITH EXISTING CONCRETE A 0.75 INCH EXPANSION JOINT (FELT) SHALL SEPARATE THE TWO.

36" MOUNTABLE CONCRETE CURB & GUTTER
N.T.S.



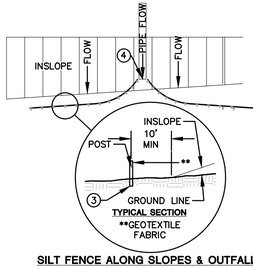
STORM INLET
N.T.S.



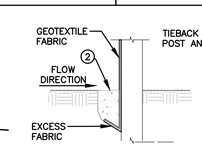
GENERAL NOTES:

1. MANHOLE CONSTRUCTION TO MEET REQUIREMENTS OF ASTM C478.
2. PROVIDE FLAT TOP SLAB FOR MANHOLES 5' OR LESS IN DEPTH. FLAT TOP SLABS TO BE IN-BELL TYPE.
3. JOINTS SHALL BE WATERTIGHT. USE BUTYL RUBBER GASKET.
4. USE MORTAR FOR PIPE CONNECTIONS.
5. ECCENTRIC CONE SECTION OF MANHOLE TO BE SET OUTSIDE OF VEHICULAR WHEEL PATH NEAR ℄ ROADWAY
6. USE NEENAH R-2501-G BEEHIVE FRAME AND GRATE WHEN IN LANDSCAPE AREAS

STORM SEWER MANHOLE
N.T.S.

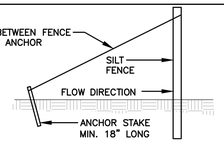


SILT FENCE ALONG SLOPES & OUTFALLS

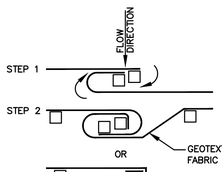


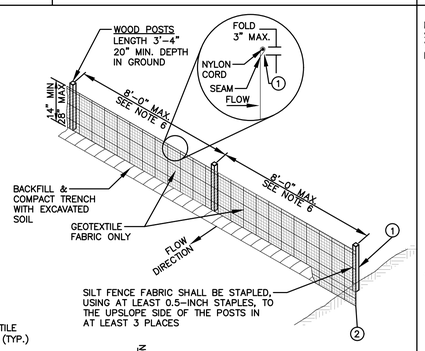
NOTE:
ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS.

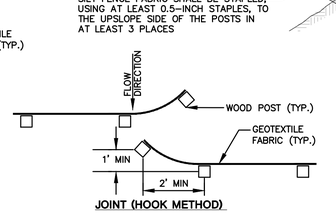
TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



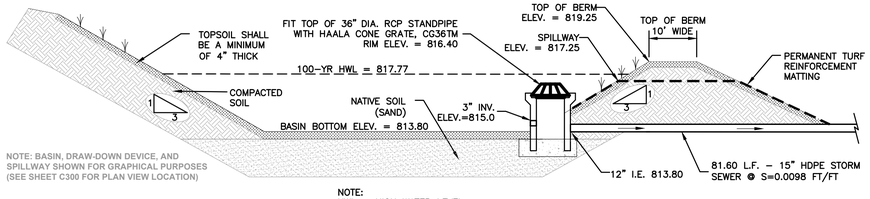




SILT FENCE
N.T.S.

GENERAL NOTES:

1. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8-INCHES OF FABRIC IN A 4-INCH WIDE AND 6-INCH DEEP TRENCH OR 6-INCH DEEP V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCHES SHALL NOT BE EXCAVATED WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION.
2. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.125-INCHES x 1.125-INCHES OF DRIED OAK OR HICKORY.
4. SILT FENCE TO EXTEND ABOVE THE TOP OF PIPE.
5. SILT FENCE CONSTRUCTION AND GEOTEXTILE FABRIC SHALL CONFORM TO WDNR TECHNICAL STANDARD 1056.
6. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8-FEET FOR WOVEN & 3-FEET FOR NON-WOVEN)



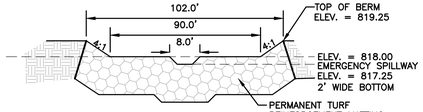
NOTE:
HWL = HIGH WATER LEVEL

CROSS-SECTION
N.T.S.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL MEET THE SPECIFICATIONS OF "WDNR INFILTRATION BASIN TECHNICAL STANDARD 1003".
2. ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER OF RECORD.
3. OWNER OR CONTRACTOR MUST CONSULT LANDSCAPE ARCHITECT OR LANDSCAPE PLAN FOR APPROPRIATE PLANTS AND PLANTING CONFIGURATIONS FOR NATIVE VEGETATIVE MAT.

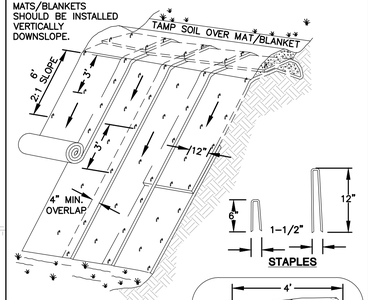
INFILTRATION BASIN DETAIL
N.T.S.



NOTES:

1. EXTEND MATTING TO TOE OF SLOPE ON THE INSIDE AND OUTSIDE OF THE BASIN.
2. MATTING SHALL BE INSTALLED IN ACCORDANCE WITH WDNR TECH STANDARD 1052 AND MANUFACTURER'S GUIDELINES.

EMERGENCY SPILLWAY DETAIL
N.T.S.



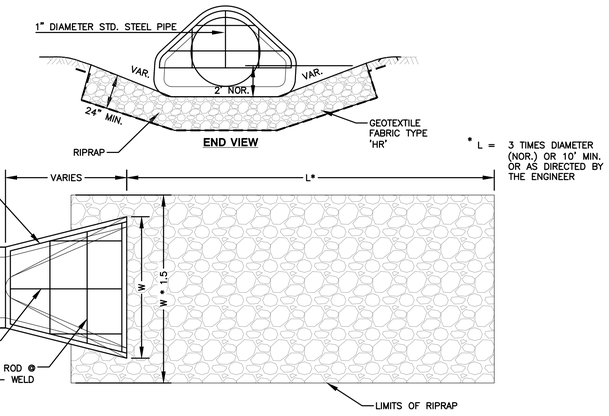
ISOMETRIC VIEW

TYPICAL SLOPE SOIL STABILIZATION

GENERAL NOTES:

1. EROSION MAT CONSTRUCTION SHALL BE IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1052 "NON-CHANNEL EROSION MAT".
2. ONLY WisDOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) APPROVED MATS SHALL BE ALLOWED. REFER TO EROSION CONTROL PLAN FOR EXACT MAT CLASSIFICATION.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
5. ONLY WisDOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) APPROVED MATS SHALL BE ALLOWED. REFER TO EROSION CONTROL PLAN FOR EXACT MAT CLASSIFICATION.

EROSION MATTING
N.T.S.



APRON ENDWALL WITH GRADE
N.T.S.

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
DETAILS
DATE 11-07-18

SHEET NUMBER:
C-4.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET DETAILS Offsite.dwg Layout: C-4.0 User: inewman Plotted: Nov 09, 2018 - 10:51am Xref's:

WDOT STANDARD DETAIL DRAWINGS

08A05–19A	INLET COVERS TYPE A, H, A–S, H–S & Z
08C07–02	INLETS 2X2–FT, 2X2.5–FT, 2X3–FT AND 2.5X3–FT
08D01–20A	CONCRETE CURB & GUTTER
08D01–20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04–05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D16–10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08D17–06	MANHOLES, MANHOLE & INLET COVERS
08D21–1	DRIVEWAYS WITHOUT CURB & GUTTER
08E09–06	SILT FENCE
08E10–02	INLET PROTECTION TYPE A, B, C AND D
08E14–01	TRACKING PAD

WDOT STANDARD DETAIL DRAWINGS

08F01–11	APRON ENDWALLS FOR CULVERT PIPE
08F02–01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04–07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02–10	CONDUIT
09B04–11	PULL BOX
09B16–01	PULL BOX NON–CONDUCTIVE
09C02–07	CONCRETE BASES, TYPES 1, 2, 5, & 6
11B01–05	CONCRETE CORRUGATED MEDIAN
11B02–02	CONCRETE MEDIAN NOSE
13C01–19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

WDOT STANDARD DETAIL DRAWINGS

13C11–12A	RURAL DOWELED CONCRETE PAVEMENT
13C11–12B	RURAL DOWELED CONCRETE PAVEMENT
13C18–06A	CONCRETE PAVEMENT JOINTING
13C18–06B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18–06C	CONCRETE PAVEMENT JOINT TYPES
13C18–06D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02–06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02–06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C07–14B	PAVEMENT MARKING WORDS
15C07–14C	PAVEMENT MARKING ARROWS

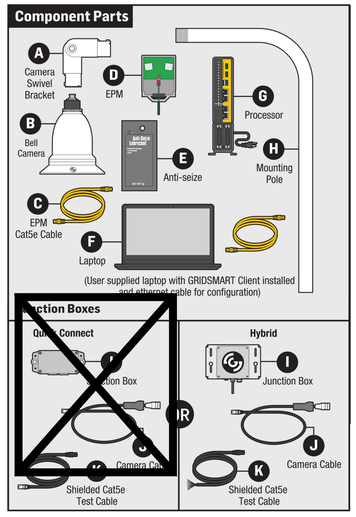
WDOT STANDARD DETAIL DRAWINGS

15C08–19A	LONGITUDINAL MARKING (MAINLINE)
15C08–19C	PAVEMENT MARKING (TURN LANES)
15C11–7B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES, AND VERTICAL PANELS
15C18–04	MEDIAN ISLAND MARKING
15D20–04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON–FREEWAY/EXPRESSWAY
15D38–02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38–02B	ATTACHMENT OF SIGNS TO POSTS

GRIDSMART®

GRIDSMART®

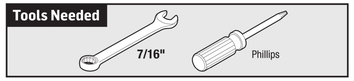
Component Parts



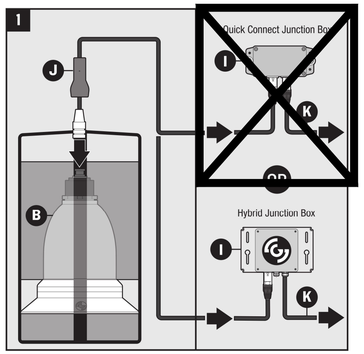
2

Out of the Box

Tools Needed



1



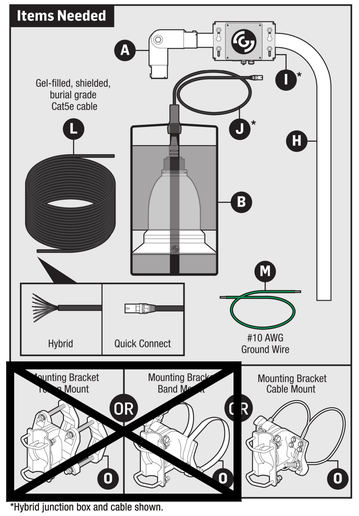
With camera in foam packaging, connect cable (J) to camera (B).Carefully line up key, press and twist. Connect remaining end of cable (J) to junction box (I). Connect shielded Cat5e cable (K) to junction box (I).

NOTE: See specific junction box instruction sheet for detailed installation.

3

GRIDSMART®

Items Needed

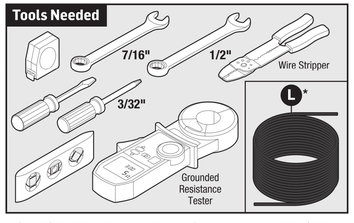


*Hybrid junction box and cable shown.

6

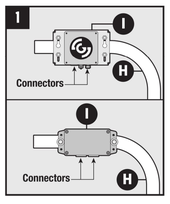
Above the Road

Tools Needed



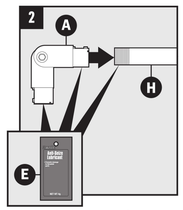
***NOTE:** Before proceeding to step 1, route gel-filled, shielded, burial grade Cat5e cable (L) from traffic cabinet to the camera mounting location.

1



Attach hybrid or quick connect junction box (I) to camera pole (H). Ensure connectors are facing down. **NOTE:** See specific junction box instruction sheets for detailed installation.

2

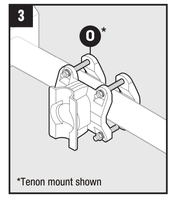


Apply anti-seize lubricant (E) to upper end of pole (H) and swivel bracket threads (A). Install swivel bracket (A) onto pole (H).

7

GRIDSMART®

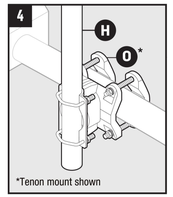
3



*Tenon mount shown

Install mounting bracket (O) onto a Luminaire, Mast Arm or other stationary structure. **NOTE:** See specific instruction sheets for detailed installation.

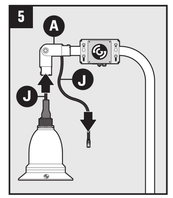
4



*Tenon mount shown

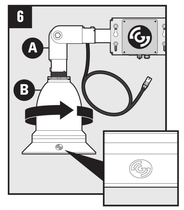
Install camera pole (H) with junction box and swivel bracket to mounting bracket (O). Angle mounting pole towards intersection.

5



After removing camera from packaging, route camera cable (J) through swivel bracket (A).

6

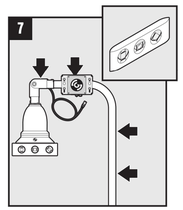


Tighten camera (B) to swivel bracket (A). Orient small 'G' logo so that no approach is cropped (usually toward a corner of the intersection).

8

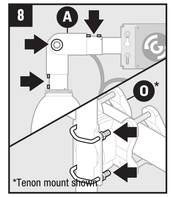
Above the Road

7



Level the camera on both planes.

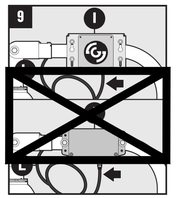
8



*Tenon mount shown

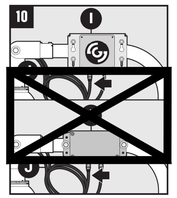
Tighten bolts on swivel bracket (A) and on mounting bracket (O).

9



Route Cat5e cable (L) through mounting pole, and out swivel bracket, then connect to junction box (I). **NOTE:** See specific junction box instruction sheets for detailed installation.

10

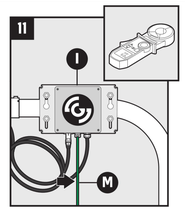


Connect camera cable (J) to junction box (I). **NOTE:** See specific junction box instruction sheets for detailed installation.

9

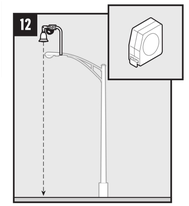
GRIDSMART®

11



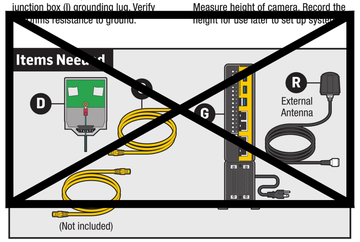
Attach #10 AWG ground wire (M) to junction box (I) grounding lug. Verify ohms resistance to ground.

12



VERY IMPORTANT
Measure height of camera. Record the height for use later to set up system.

Items Needed



10

GRIDSMART CAMERA DETAILS
N.T.S.

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

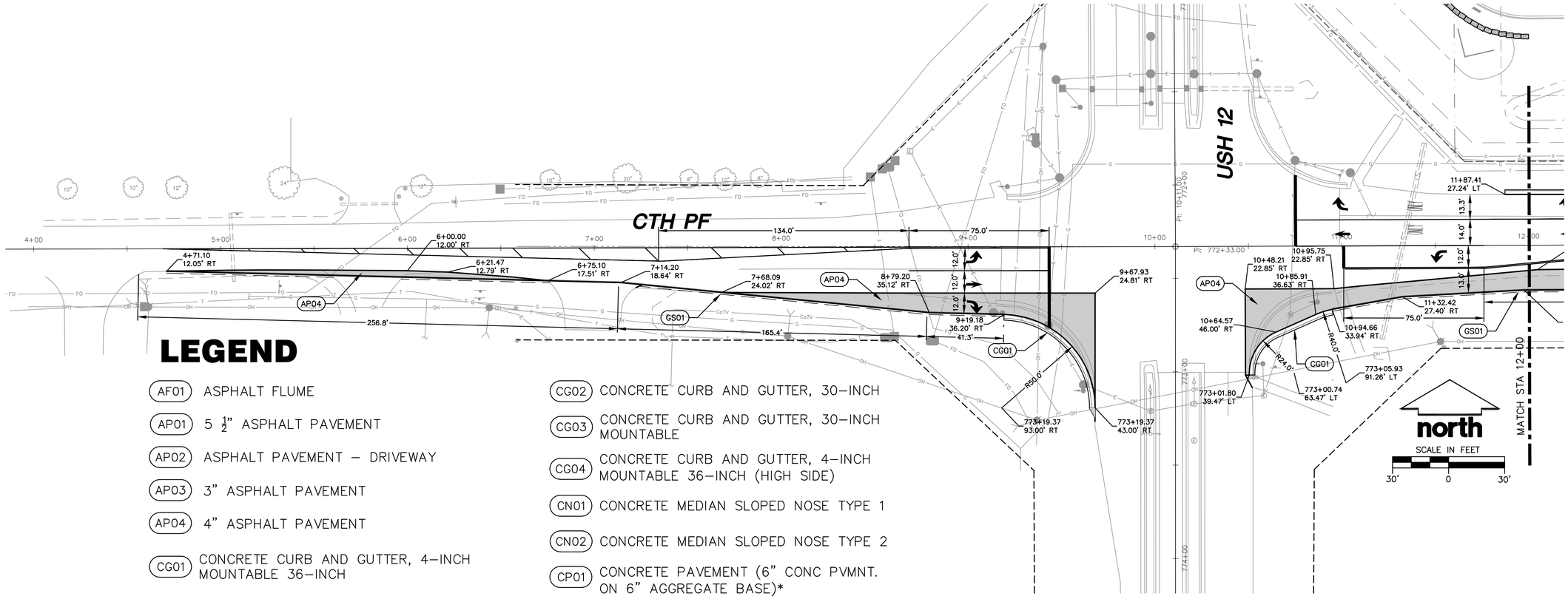
SHEET TITLE:
DETAILS
DATE 11-07-18

SHEET NUMBER:
C-4.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

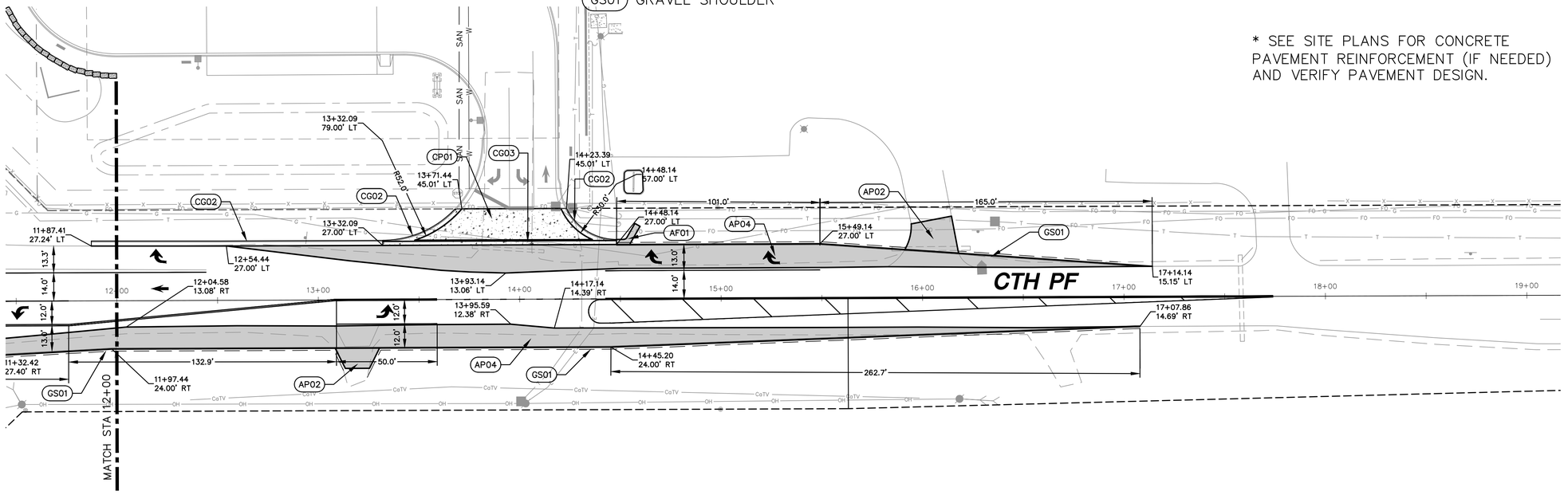
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET DETAILS Offsite.dwg Layout: C-4.1 User: inewman Plotted: Nov 09, 2018 – 10:51am Xrefs:



LEGEND

- AF01 ASPHALT FLUME
- AP01 5 ½" ASPHALT PAVEMENT
- AP02 ASPHALT PAVEMENT – DRIVEWAY
- AP03 3" ASPHALT PAVEMENT
- AP04 4" ASPHALT PAVEMENT
- CG01 CONCRETE CURB AND GUTTER, 4–INCH MOUNTABLE 36–INCH
- CG02 CONCRETE CURB AND GUTTER, 30–INCH
- CG03 CONCRETE CURB AND GUTTER, 30–INCH MOUNTABLE
- CG04 CONCRETE CURB AND GUTTER, 4–INCH MOUNTABLE 36–INCH (HIGH SIDE)
- CN01 CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CN02 CONCRETE MEDIAN SLOPED NOSE TYPE 2
- CP01 CONCRETE PAVEMENT (6" CONC PVMNT. ON 6" AGGREGATE BASE)*
- GS01 GRAVEL SHOULDER

* SEE SITE PLANS FOR CONCRETE PAVEMENT REINFORCEMENT (IF NEEDED) AND VERIFY PAVEMENT DESIGN.



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

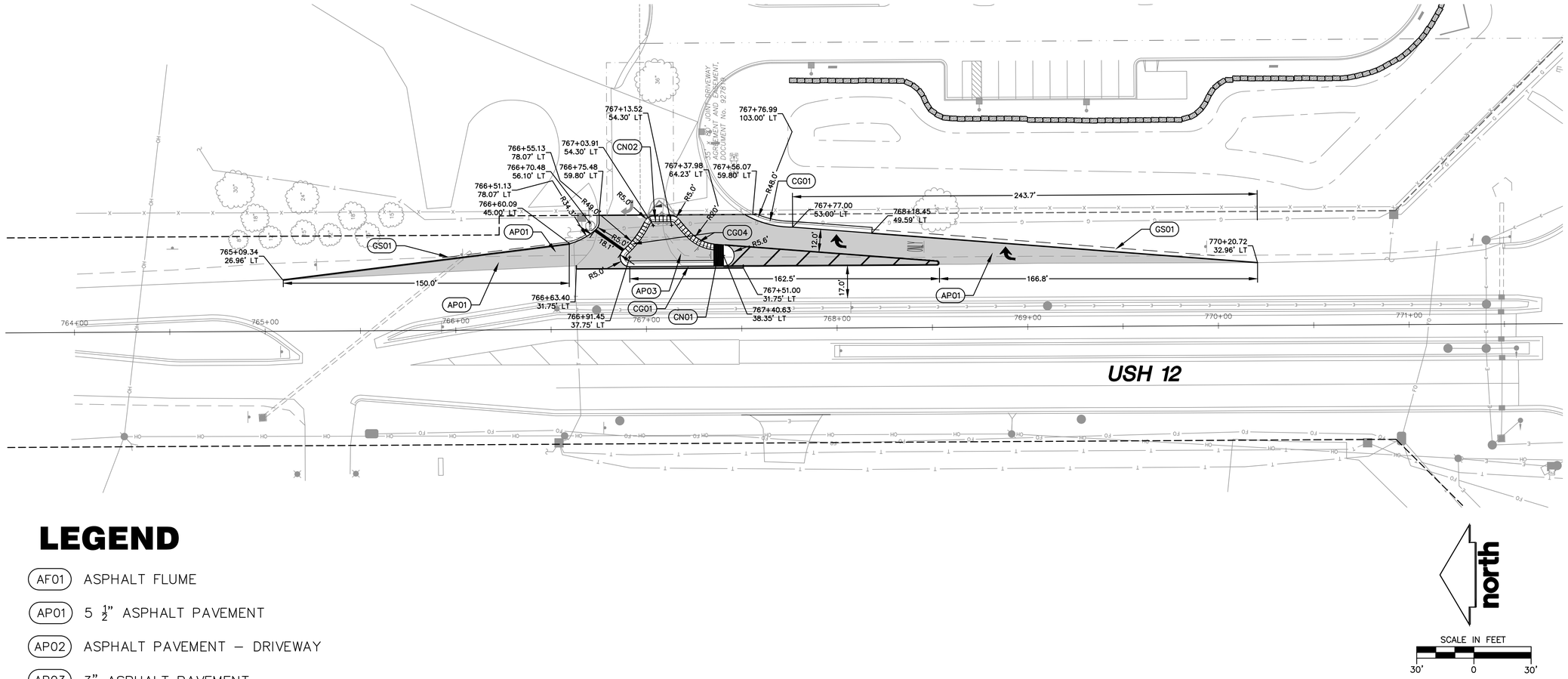
SHEET TITLE:
COUNTY "PF" LAYOUT PLAN
DATE 11-07-18

SHEET NUMBER:
C-5.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Layout Offsite.dwg Layout: C-5.0 User: inewman Plotted: Nov 09, 2018 – 10:52am Xrefs:



LEGEND

- AF01 ASPHALT FLUME
- AP01 5 ½" ASPHALT PAVEMENT
- AP02 ASPHALT PAVEMENT – DRIVEWAY
- AP03 3" ASPHALT PAVEMENT
- AP04 4" ASPHALT PAVEMENT
- CG01 CONCRETE CURB AND GUTTER, 4–INCH MOUNTABLE 36–INCH
- CG02 CONCRETE CURB AND GUTTER, 30–INCH
- CG03 CONCRETE CURB AND GUTTER, 30–INCH MOUNTABLE
- CG04 CONCRETE CURB AND GUTTER, 4–INCH MOUNTABLE 36–INCH (HIGH SIDE)
- CN01 CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CN02 CONCRETE MEDIAN SLOPED NOSE TYPE 2
- CP01 CONCRETE PAVEMENT (6" CONC PVMNT. ON 6" AGGREGATE BASE)
- GS01 GRAVEL SHOULDER

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

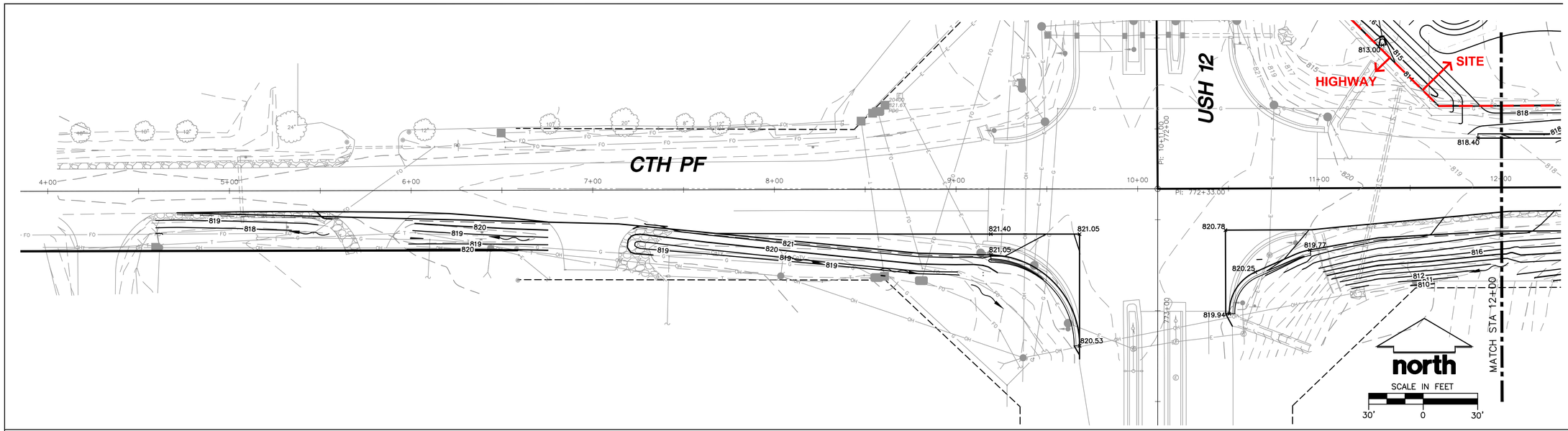
SHEET TITLE:
USH 12 LAYOUT PLAN
DATE 11-07-18

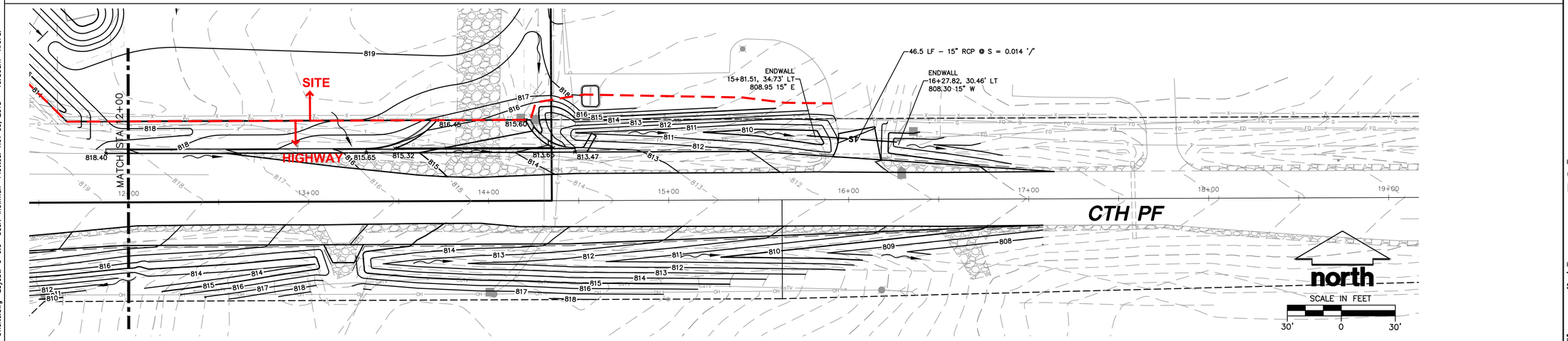
SHEET NUMBER:
C-5.1

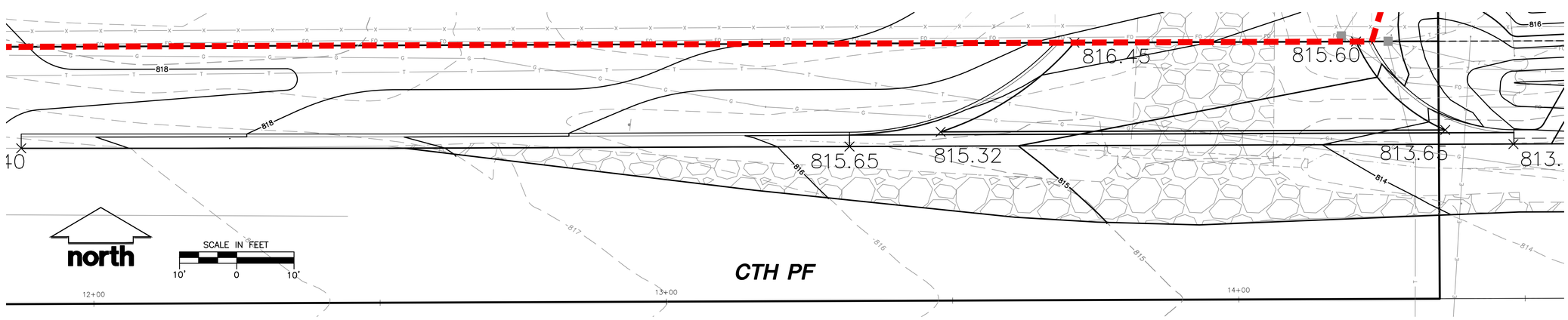
JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Layout Offsite.dwg Layout: C-5.1 User: inewman Plotted: Nov 09, 2018 – 10:52am Xrefs:







JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

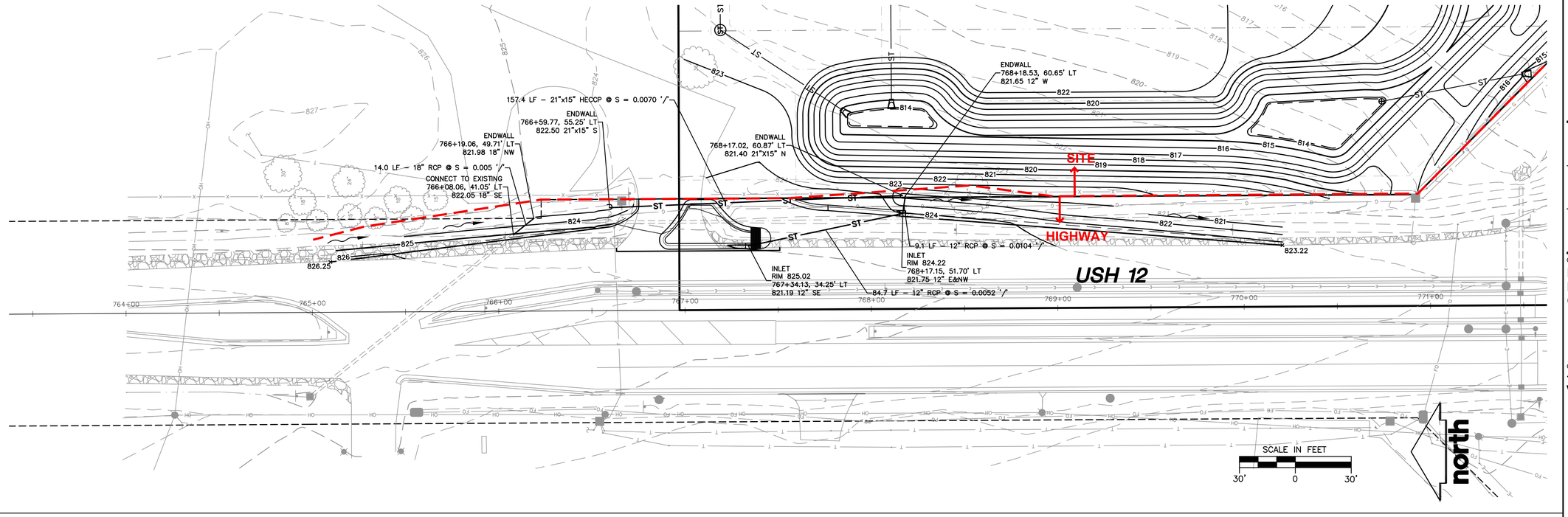
SHEET TITLE:
COUNTY "PF" GRADING AND DRAINAGE PLAN
DATE 11-07-18

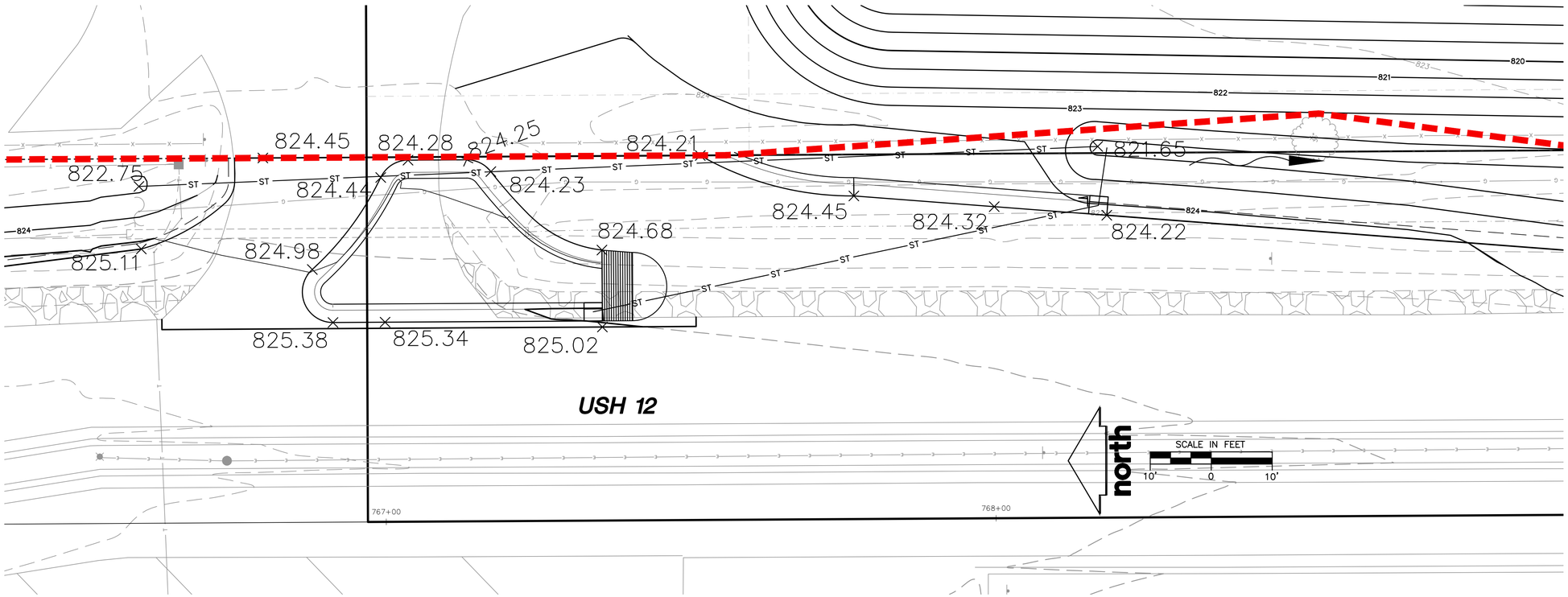
SHEET NUMBER:
C-6.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Grading and Drainage Offsite.dwg Layout: C-6.0 User: inewman Plotted: Nov 09, 2018 – 10:56am Xref's:





JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

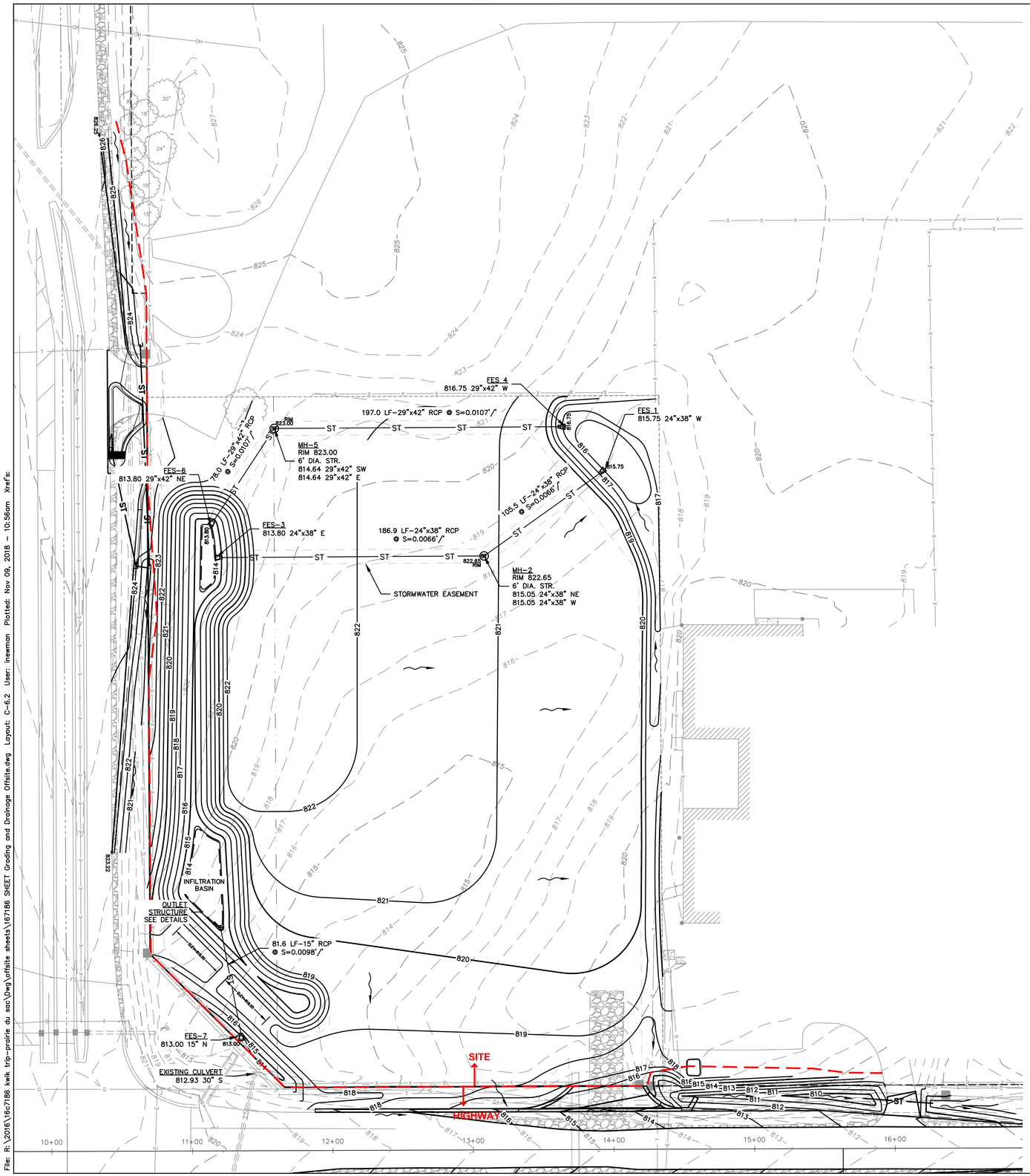
SHEET TITLE:
USH 12 GRADING AND DRAINAGE PLAN
DATE 11-07-18

SHEET NUMBER:
C-6.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Grading and Drainage Offsite.dwg Layout: C-6.1 User: lnewman Plotted: Nov 09, 2018 – 10:56am Xref's:



LEGEND

- SANITARY SEWER MANHOLE
- STORM MANHOLE
- CATCH BASIN ROUND
- CATCH BASIN SQUARE
- FIRE HYDRANT
- WATER VALVE
- GAS VALVE
- LIGHT POLE
- TELEPHONE PEDESTAL
- ELECTRICAL MANHOLE
- SIGN
- POWER POLE
- GUY WIRE
- SAN — SANITARY SEWER
- W — WATER MAIN
- ST — STORM SEWER
- G — UNDERGROUND GAS
- E — UNDERGROUND ELECTRIC
- T — UNDERGROUND TELEPHONE
- FIB — UNDERGROUND FIBER OPTICS
- OH — OVERHEAD UTILITY

north

SCALE IN FEET

40' 0 40'

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

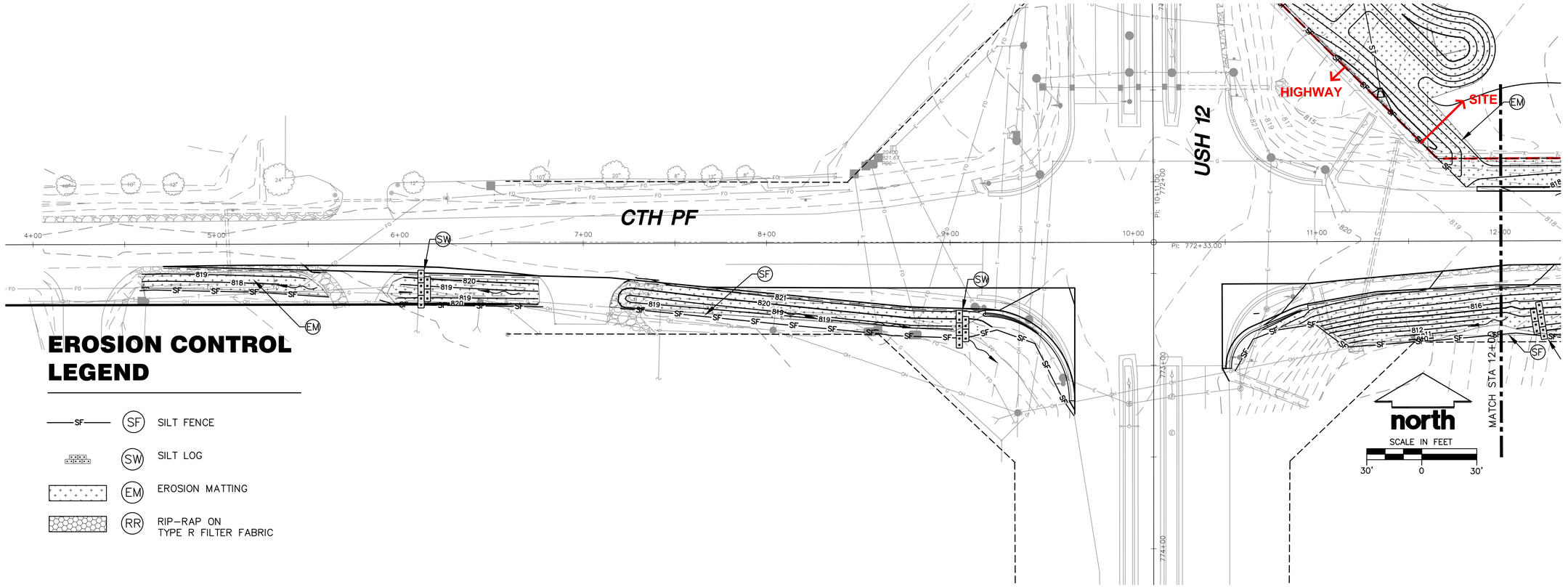
SHEET TITLE:
MASS GRADING AND DRAINAGE PLAN
DATE 11-07-18

SHEET NUMBER:
C-6.2

JSD PROJECT NO: 16-7186

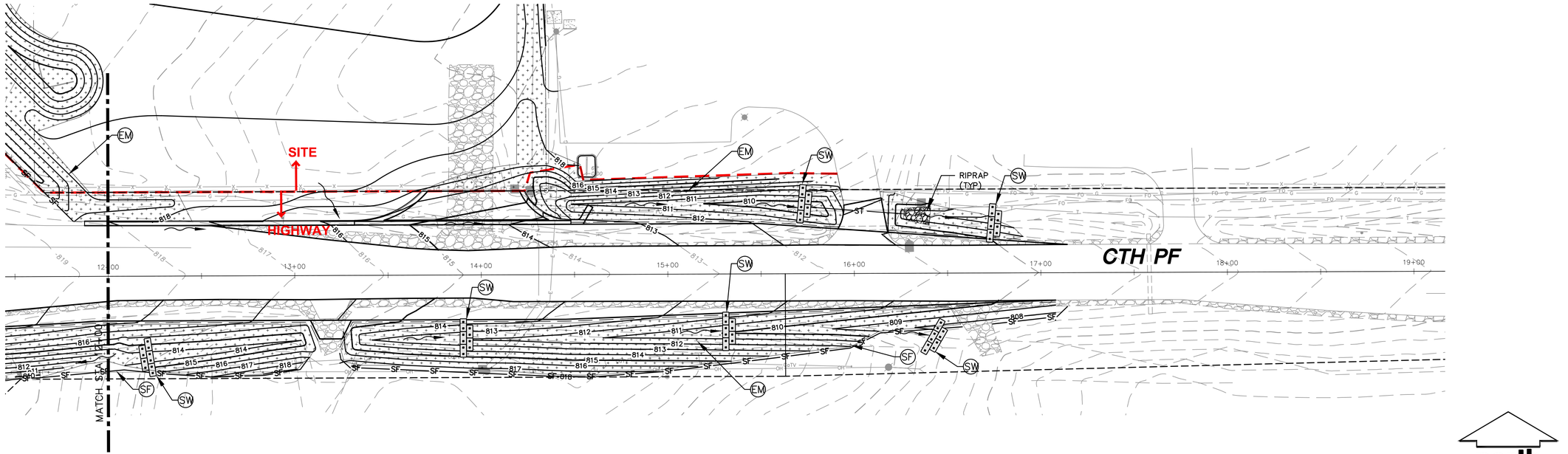
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Grading and Drainage Offsite.dwg Layout: C-6.2 User: inewman Plotted: Nov 09, 2018 - 10:56am Xref's:



EROSION CONTROL LEGEND

- SF — SILT FENCE
- SW — SILT LOG
- EM — EROSION MATTING
- RR — RIP–RAP ON TYPE R FILTER FABRIC



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

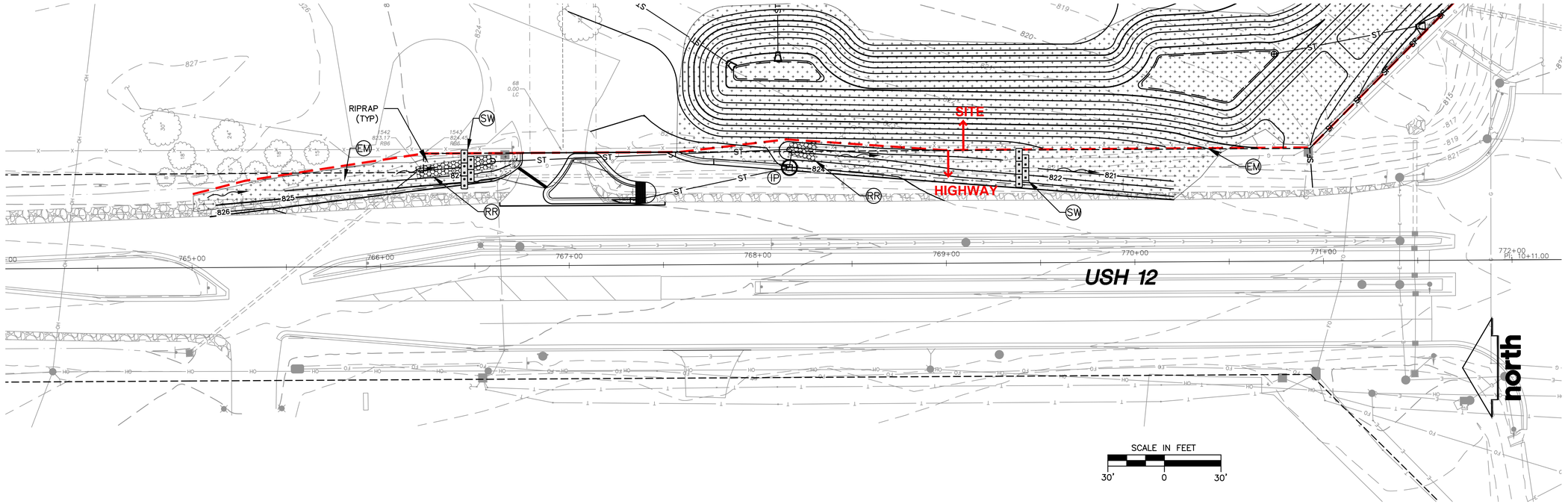
SHEET TITLE:
COUNTY "PF" EROSION CONTROL PLAN
DATE 11-07-18

SHEET NUMBER:
C-7.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Erosion Control Offsite.dwg Layout: C-7.0 User: lnewman Plotted: Nov 09, 2018 – 10:59am Xrefs:



EROSION CONTROL LEGEND

SF	SF	SILT FENCE
	IP	INLET PROTECTION (TYPE D)
	SW	SILT LOG
	EM	EROSION MATTING
	RR	RIP-RAP ON TYPE R FILTER FABRIC

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

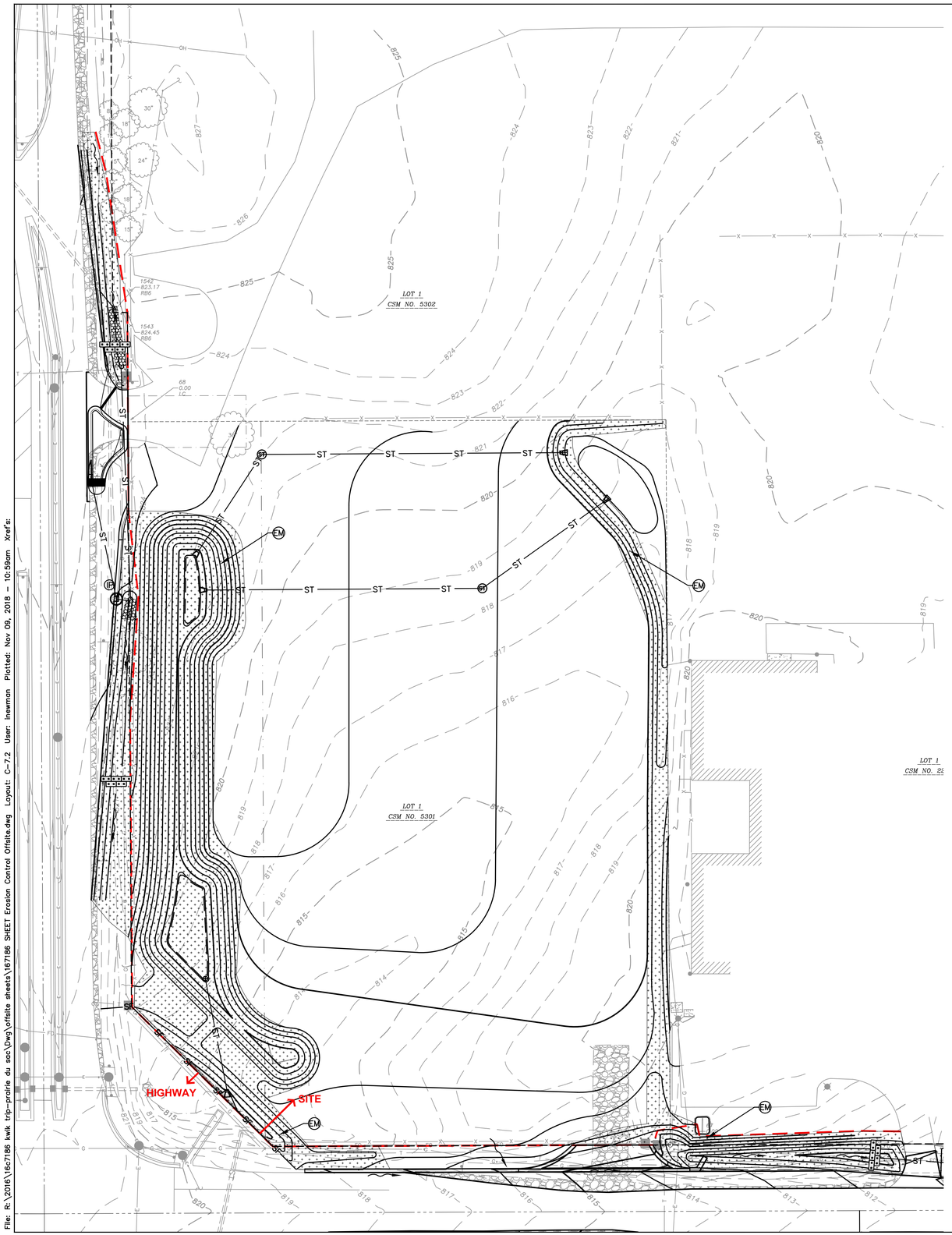
SHEET TITLE:
USH 12 EROSION CONTROL PLAN
DATE 11-07-18

SHEET NUMBER:
C-7.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Erosion Control Offsite.dwg Layout: C-7.1 User: lnewman Plotted: Nov 09, 2018 – 10:59am Xref's:



EROSION CONTROL LEGEND

SF	SF	SILT FENCE
	IP	INLET PROTECTION (TYPE D)
	SW	SILT LOG
	EM	EROSION MATTING
	RR	RIP-RAP ON TYPE R FILTER FABRIC

north

SCALE IN FEET

40' 0 40'

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

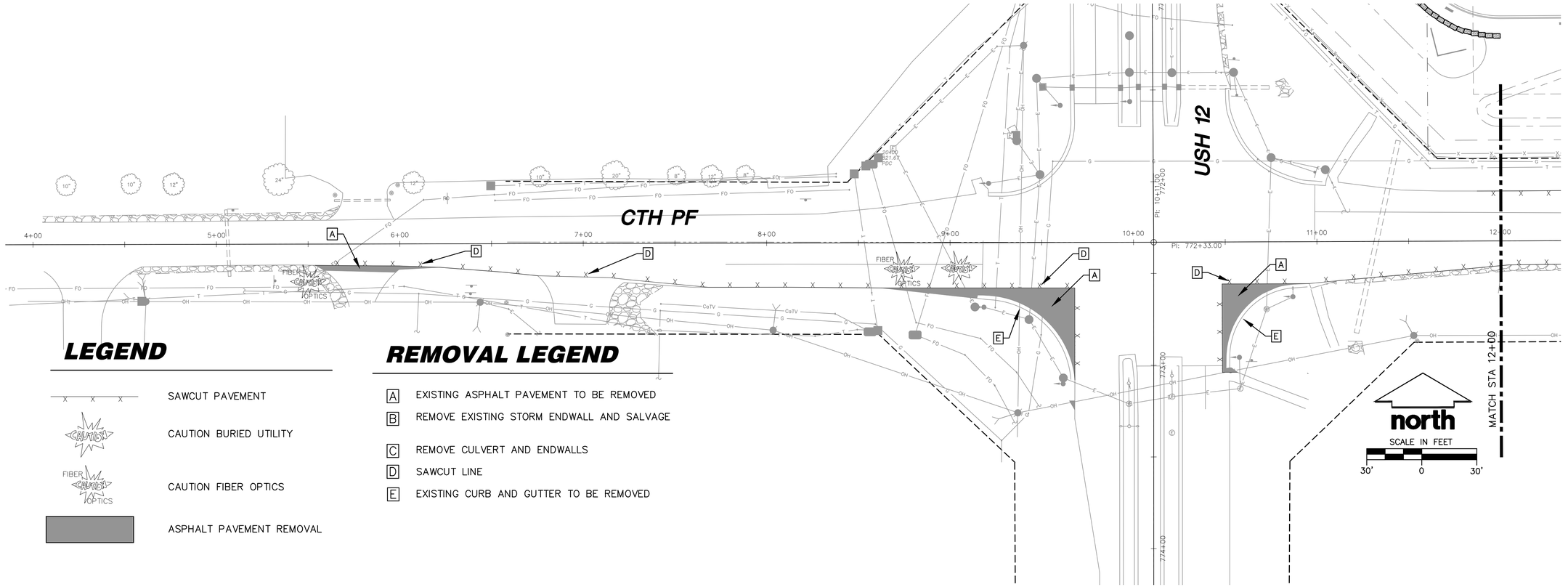
SHEET TITLE:
MASS GRADING EROSION CONTROL PLAN
DATE 11-07-18

SHEET NUMBER:
C-7.2

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Erosion Control Offsite.dwg Layout: C-7.2 User: inewman Plotted: Nov 09, 2018 - 10:59am Xref's:

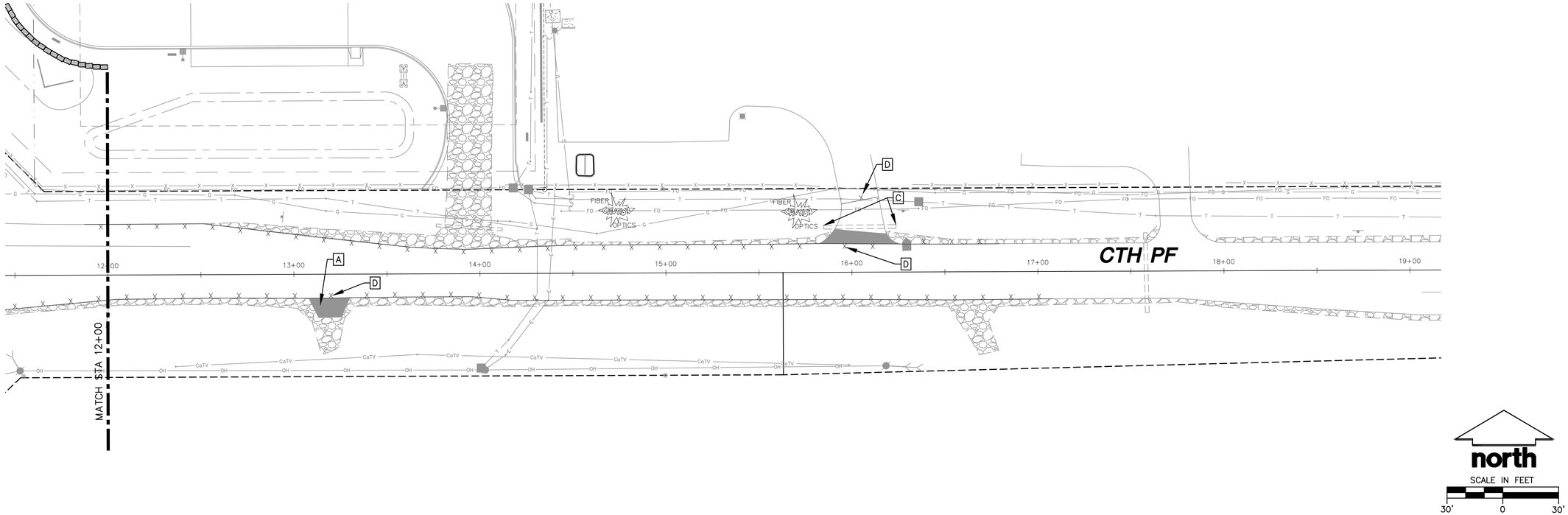


LEGEND

- SAWCUT PAVEMENT
- CAUTION BURIED UTILITY
- CAUTION FIBER OPTICS
- ASPHALT PAVEMENT REMOVAL

REMOVAL LEGEND

- [A] EXISTING ASPHALT PAVEMENT TO BE REMOVED
- [B] REMOVE EXISTING STORM ENDWALL AND SALVAGE
- [C] REMOVE CULVERT AND ENDWALLS
- [D] SAWCUT LINE
- [E] EXISTING CURB AND GUTTER TO BE REMOVED



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

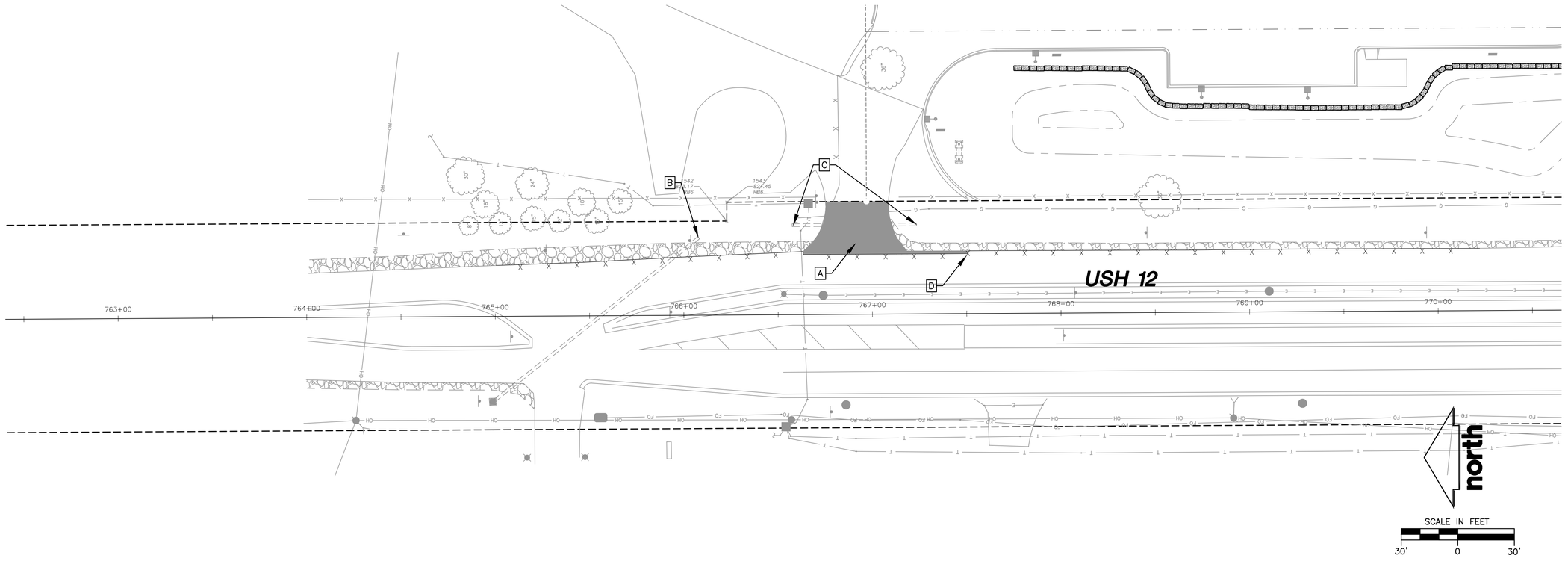
SHEET TITLE:
CTH PF REMOVAL PLAN
DATE 11-07-18

SHEET NUMBER:
C-8.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Removal Offsite.dwg Layout: C-8.0 User: inewman Plotted: Nov 09, 2018 - 11:01am Xref's:



LEGEND

- SAWCUT PAVEMENT
- CAUTION BURIED UTILITY
- CAUTION FIBER OPTICS
- ASPHALT PAVEMENT REMOVAL

REMOVAL LEGEND

- A EXISTING ASPHALT PAVEMENT TO BE REMOVED
- B REMOVE EXISTING STORM ENDWALL AND SALVAGE
- C REMOVE CULVERT AND ENDWALLS
- D SAWCUT LINE
- E EXISTING CURB AND GUTTER TO BE REMOVED

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

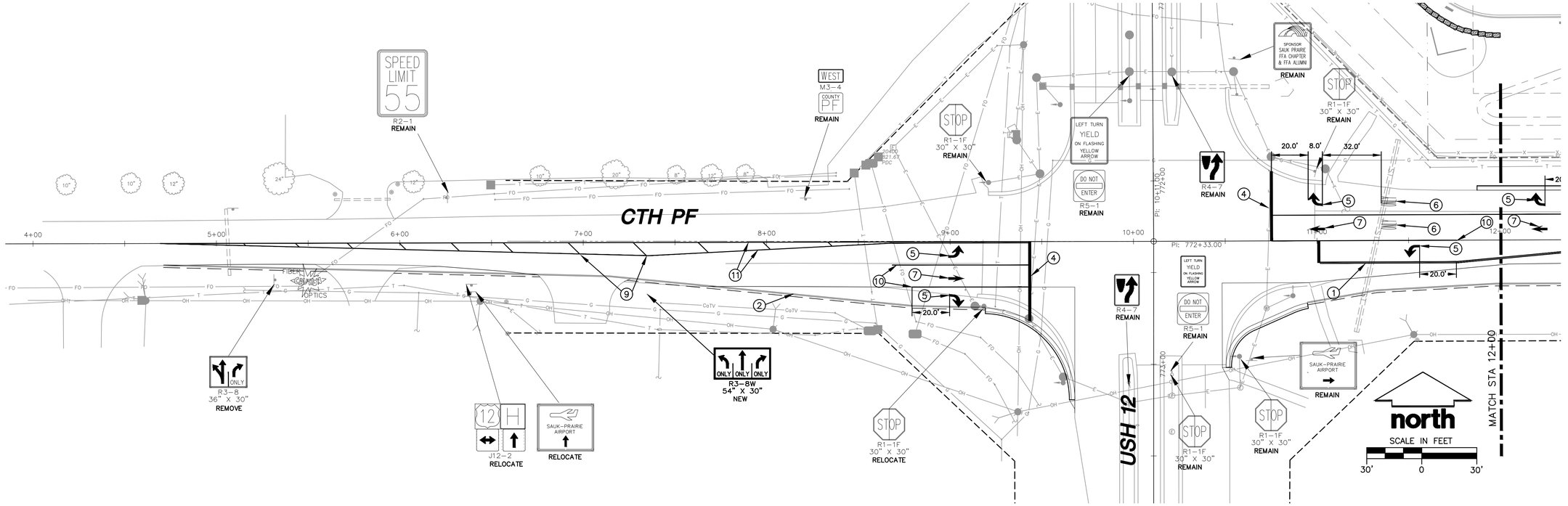
SHEET TITLE:
USH 12 REMOVAL PLAN
DATE 11-07-18

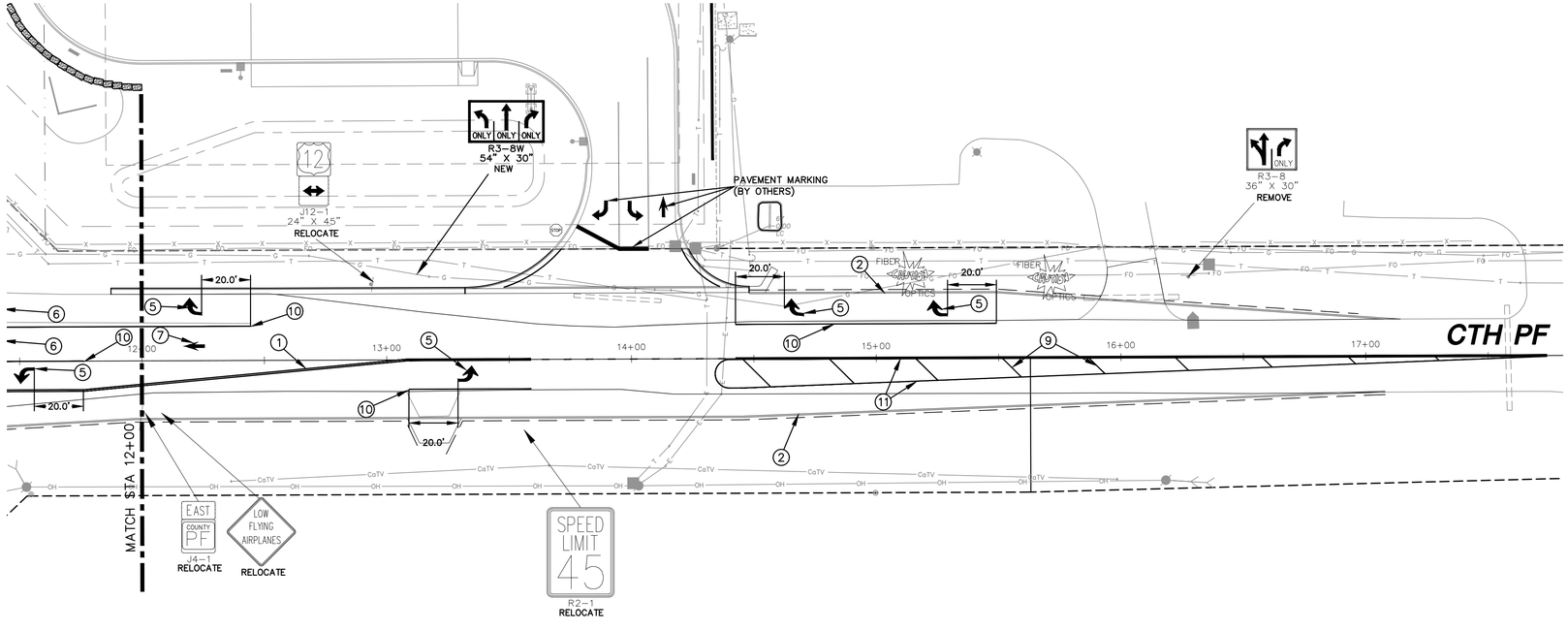
SHEET NUMBER:
C-8.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Removal Offsite.dwg Layout: C-8.1 User: inewman Plotted: Nov 09, 2018 - 11:01am Xrefs:





PAVEMENT MAKING ITEM LEGEND

1. PAVEMENT MARKING EPOXY 4–INCH (DOUBLE YELLOW)
2. PAVEMENT MARKING EPOXY 4–INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4–INCH (WHITE)
4. PAVEMENT MARKING STOP LINE EPOXY 18–INCH (WHITE)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE) SEE SDD "PAVEMENT MARKING" FOR LOCATION
6. PAVEMENT MARKING WORDS EPOXY (WHITE) SEE SDD "PAVEMENT MARKING" FOR LOCATION
7. PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)
8. PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
9. PAVEMENT MARKING DIAGONAL 12–INCH EPOXY (YELLOW)
10. PAVEMENT MARKING CHANNELIZING 8–INCH EPOXY (WHITE)
11. PAVEMENT MARKING EPOXY 4–INCH YELLOW)

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

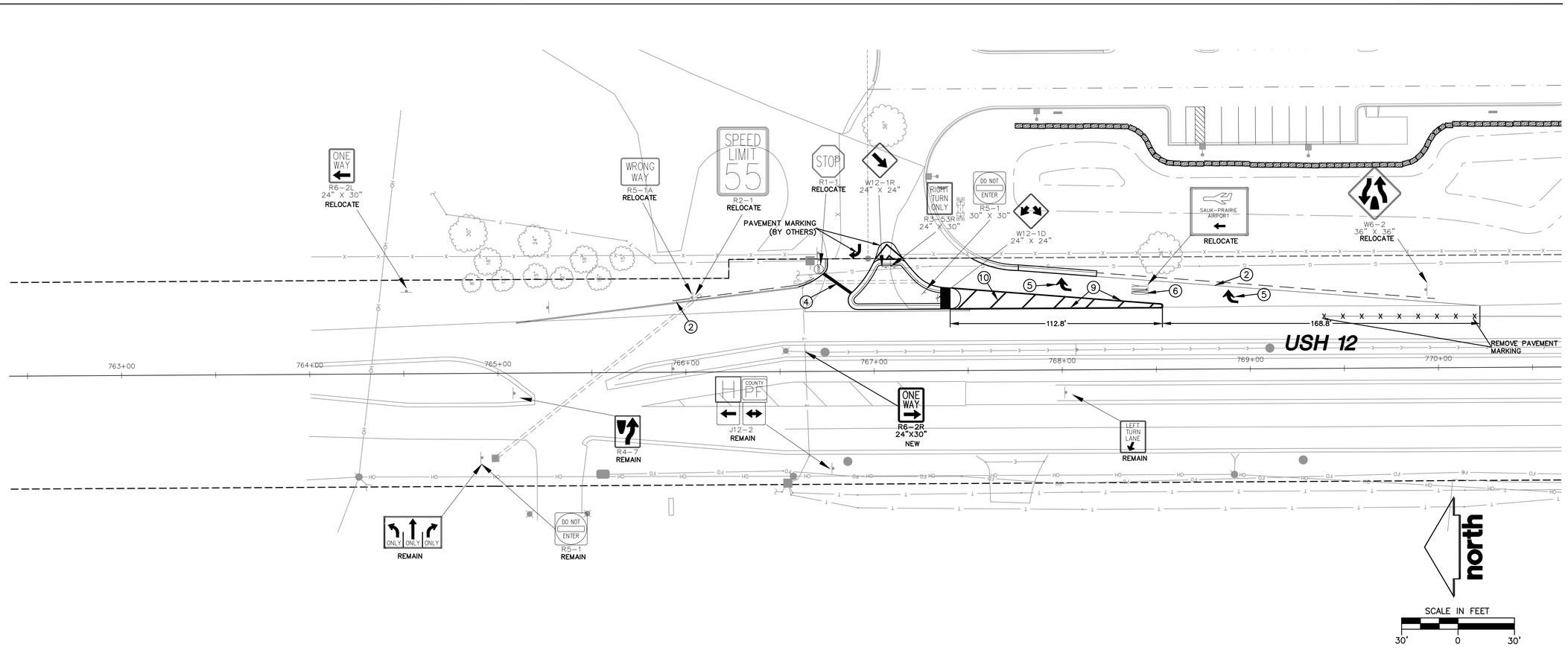
SHEET TITLE:
CTH PF SIGNING AND STRIPING PLAN
DATE 11-07-18

SHEET NUMBER:
C-9.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Sign and Stripe Offsite.dwg Layout: C-9.0 User: lnewman Plotted: Nov 09, 2018 – 11:03am Xrefs:



PAVEMENT MAKING ITEM LEGEND

1. PAVEMENT MARKING EPOXY 4–INCH (DOUBLE YELLOW)
2. PAVEMENT MARKING EPOXY 4–INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4–INCH (WHITE)
4. PAVEMENT MARKING STOP LINE EPOXY 18–INCH (WHITE)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE) SEE SDD "PAVEMENT MARKING" FOR LOCATION
6. PAVEMENT MARKING WORDS EPOXY (WHITE) SEE SDD "PAVEMENT MARKING" FOR LOCATION
7. PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)
8. PAVEMENT MARKING ARROWS EPOXY TYPE 3 (WHITE)
9. PAVEMENT MARKING DIAGONAL 12–INCH EPOXY (YELLOW)
10. PAVEMENT MARKING CHANNELIZING 8–INCH EPOXY (WHITE)

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
USH 12 SIGNING AND STRIPING PLAN
DATE 11-07-18

SHEET NUMBER:
C-9.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Sign and Stripe Offsite.dwg Layout: C-9.1 User: lnewman Plotted: Nov 09, 2018 – 11:03am Xref's:

LEGEND

——E—— NONMETALLIC CONDUIT

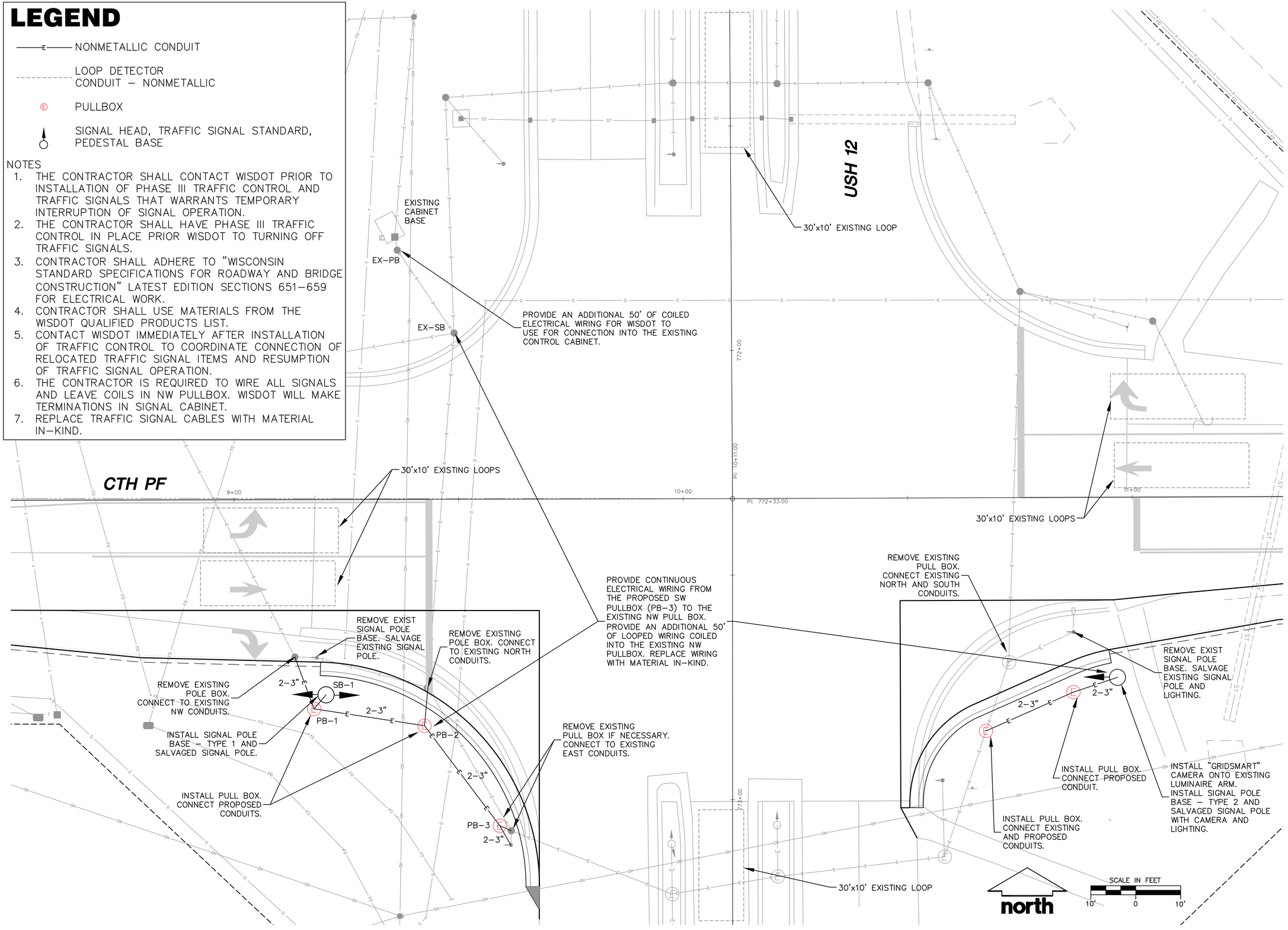
LOOP DETECTOR CONDUIT – NONMETALLIC

Ⓔ PULLBOX

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

NOTES

1. THE CONTRACTOR SHALL CONTACT WISDOT PRIOR TO INSTALLATION OF PHASE III TRAFFIC CONTROL AND TRAFFIC SIGNALS THAT WARRANTS TEMPORARY INTERRUPTION OF SIGNAL OPERATION.
2. THE CONTRACTOR SHALL HAVE PHASE III TRAFFIC CONTROL IN PLACE PRIOR WISDOT TO TURNING OFF TRAFFIC SIGNALS.
3. CONTRACTOR SHALL ADHERE TO "WISCONSIN STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION" LATEST EDITION SECTIONS 651–659 FOR ELECTRICAL WORK.
4. CONTRACTOR SHALL USE MATERIALS FROM THE WISDOT QUALIFIED PRODUCTS LIST.
5. CONTACT WISDOT IMMEDIATELY AFTER INSTALLATION OF TRAFFIC CONTROL TO COORDINATE CONNECTION OF RELOCATED TRAFFIC SIGNAL ITEMS AND RESUMPTION OF TRAFFIC SIGNAL OPERATION.
6. THE CONTRACTOR IS REQUIRED TO WIRE ALL SIGNALS AND LEAVE COILS IN NW PULLBOX. WISDOT WILL MAKE TERMINATIONS IN SIGNAL CABINET.
7. REPLACE TRAFFIC SIGNAL CABLES WITH MATERIAL IN–KIND.



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

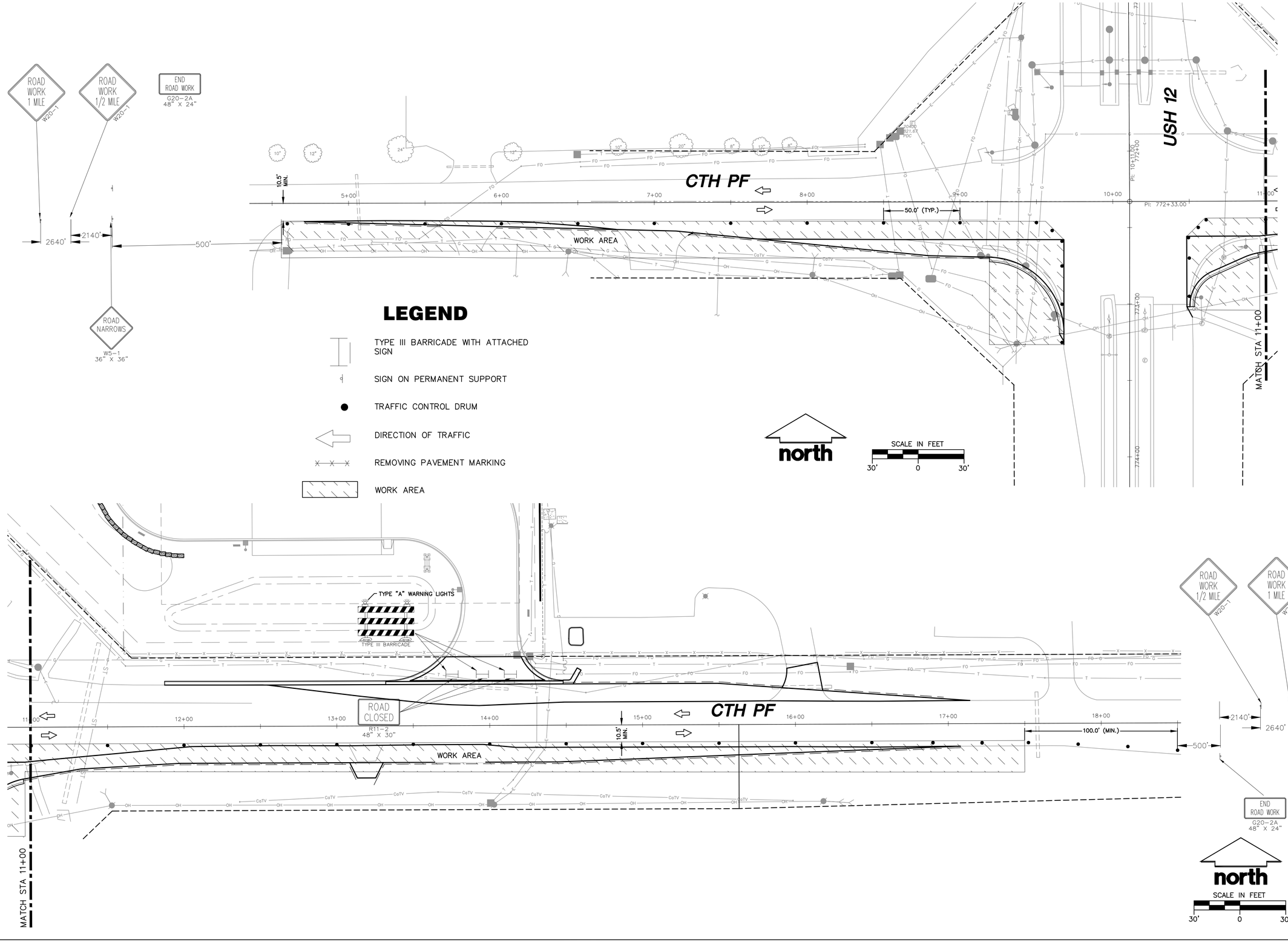
SHEET TITLE:
USH 12/COUNTY "PF" TRAFFIC SIGNAL PLAN
DATE 10-05-18

SHEET NUMBER:
C-9.2

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip–prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Signal Offsite.dwg Layout: C–5.0 User: inewman Plotted: Nov 09, 2018 – 11:06am Xref's:



File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph I Offsite.dwg Layout: C-10.0 User: inewman Plotted: Nov 09, 2018 – 11:09am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

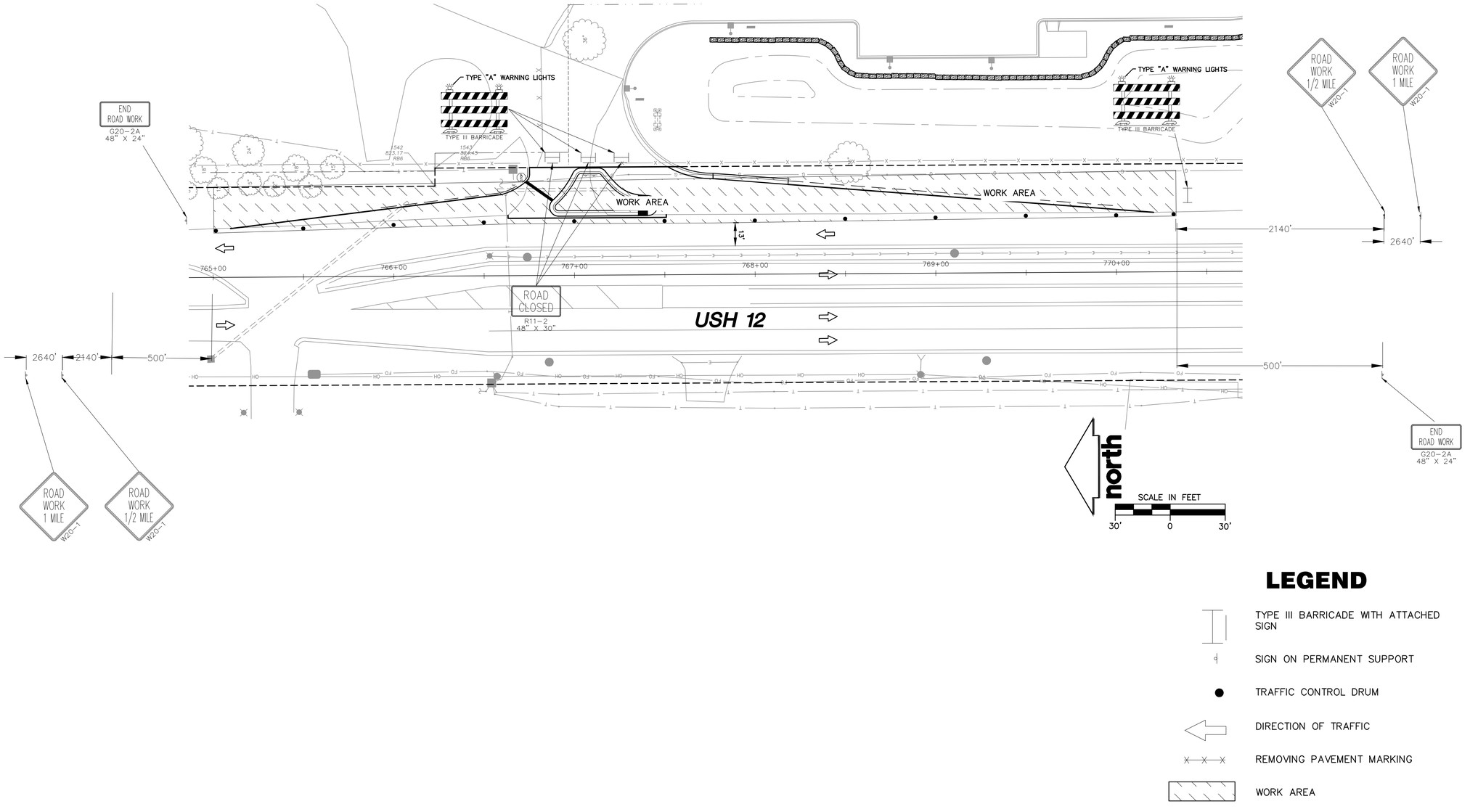
Design/Drawn:
Approved:

SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE I
DATE 11-07-18

SHEET NUMBER:
C-10.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.



LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING
- WORK AREA

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

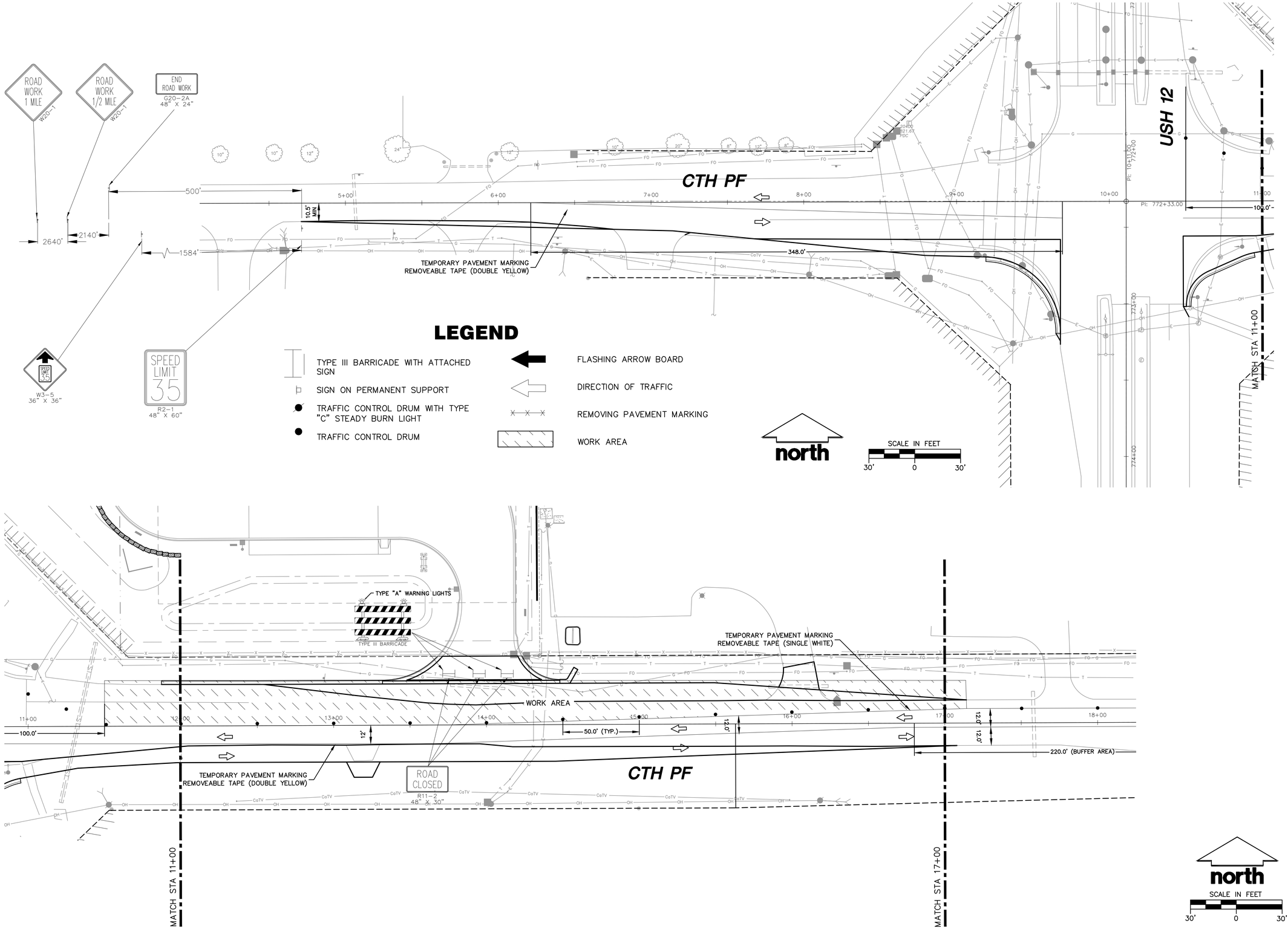
SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE I
DATE 11-07-18

SHEET NUMBER:
C-10.1

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph I Offsite.dwg Layout: C-10.1 User: lnewman Plotted: Nov 09, 2018 - 11:09am Xref's:



File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph II Offsite.dwg Layout: C-10.2 User: inewman Plotted: Nov 09, 2018 – 11:11am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

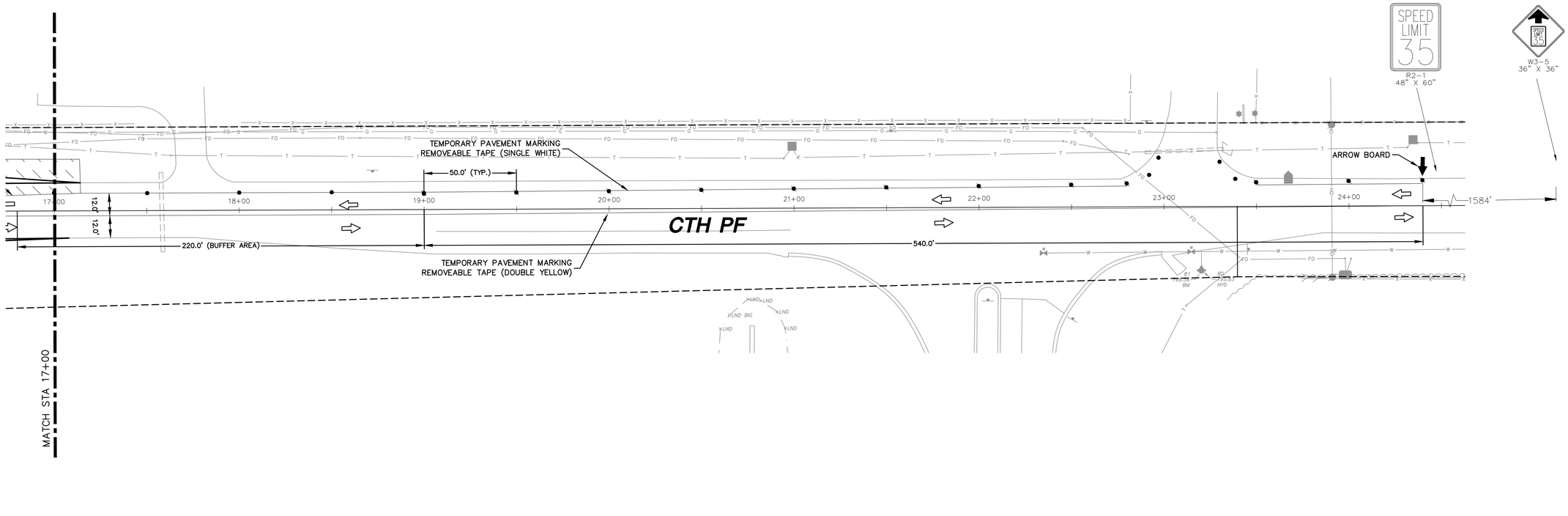
Design/Drawn:
Approved:

SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE II
DATE 11-07-18

SHEET NUMBER:
C-10.2

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.



LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING
- WORK AREA

north

SCALE IN FEET

30' 0 30'

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

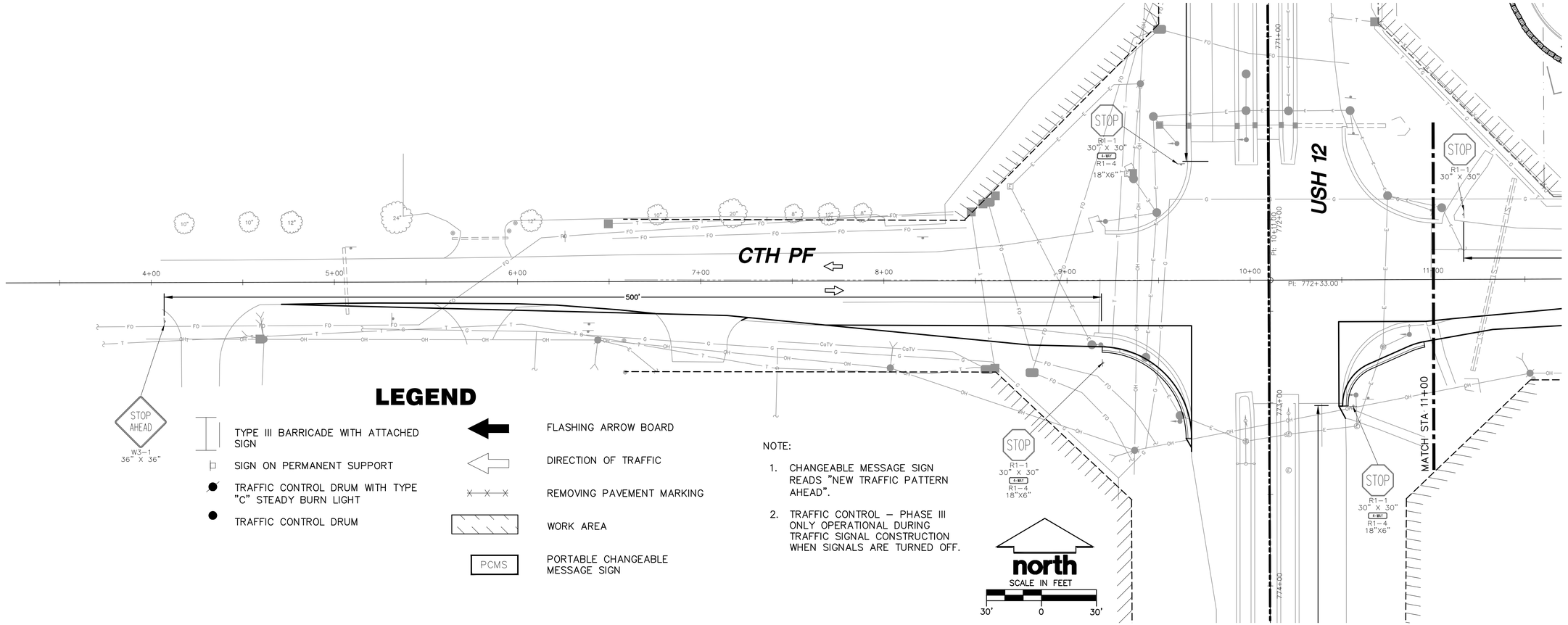
SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE II
DATE 11-07-18

SHEET NUMBER:
C-10.3

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph II Offsite.dwg Layout: C-10.3 User: inewman Plotted: Nov 09, 2018 - 11:11am Xref's:



File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph III Offsite.dwg Layout: C-10.4 User: lnewman Plotted: Nov 09, 2018 - 11:13am Xrefs:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

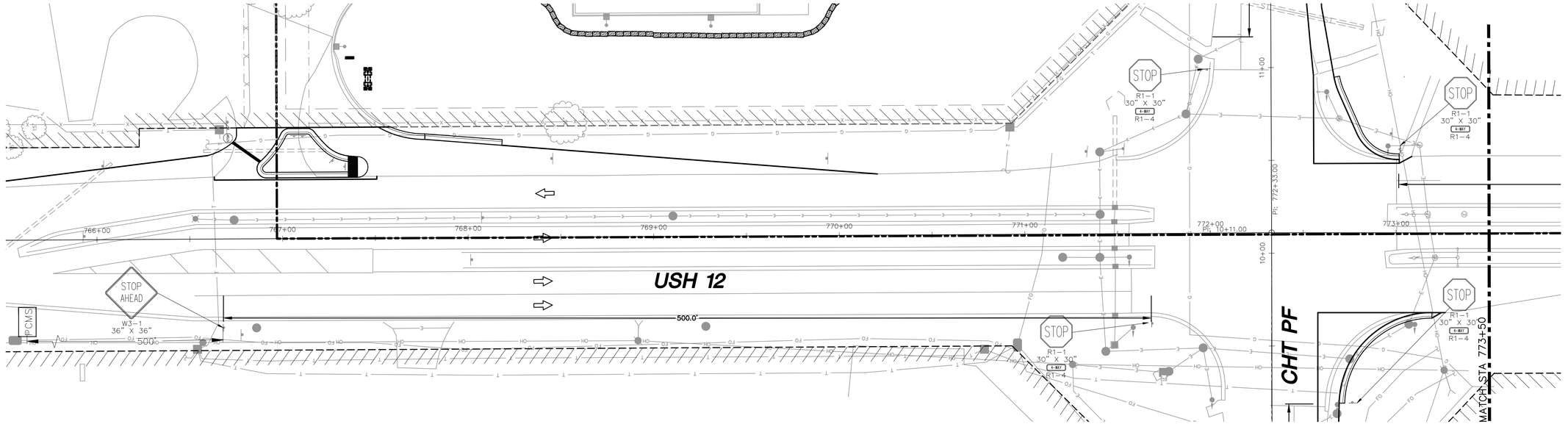
Design/Drawn:
Approved:

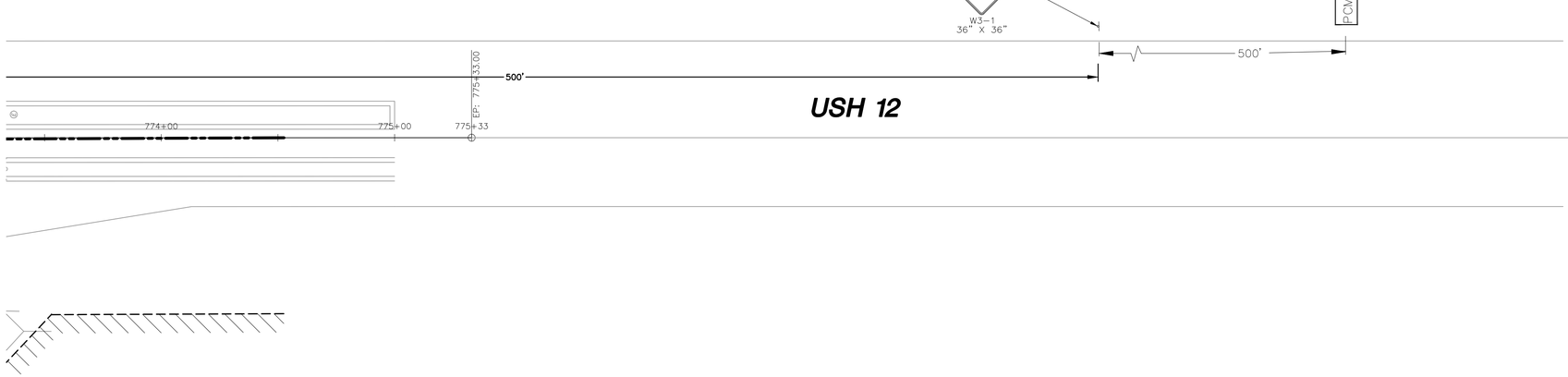
SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE III
DATE 11-07-18

SHEET NUMBER:
C-10.4

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.





LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING
- WORK AREA
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

NOTE:

1. CHANGEABLE MESSAGE SIGN READS "NEW TRAFFIC PATTERN AHEAD".
2. TRAFFIC CONTROL – PHASE III ONLY OPERATIONAL DURING TRAFFIC SIGNAL CONSTRUCTION WHEN SIGNALS ARE TURNED OFF.

north

SCALE IN FEET
30' 0 30'

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

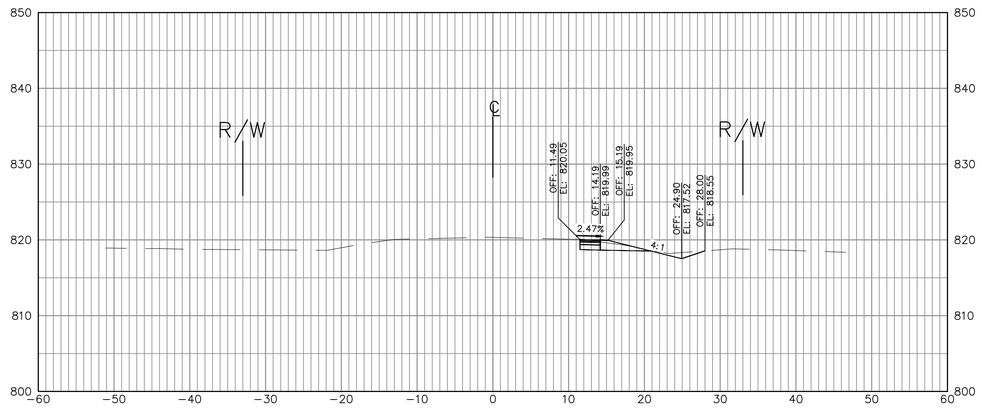
SHEET TITLE:
TRAFFIC CONTROL PLAN - PHASE III
DATE 11-07-18

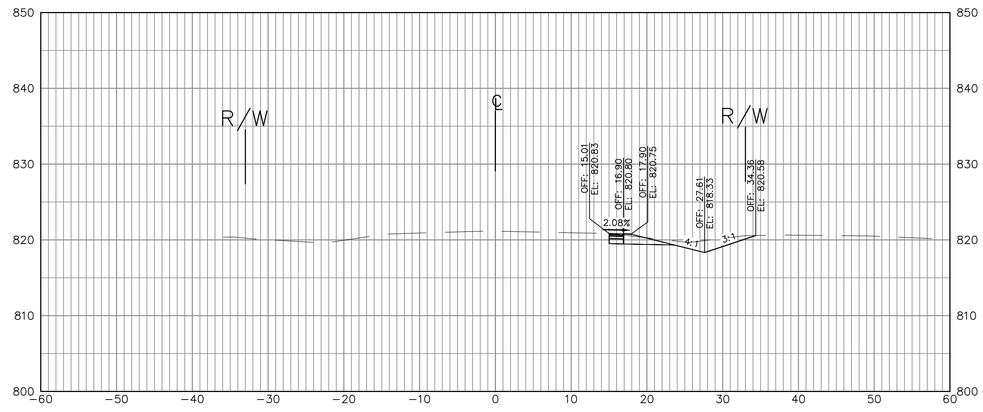
SHEET NUMBER:
C-10.5

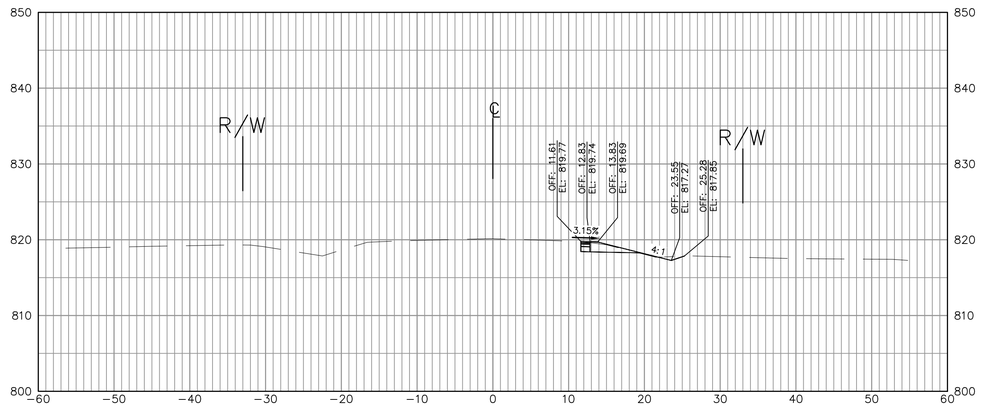
JSD PROJECT NO: 16-7186

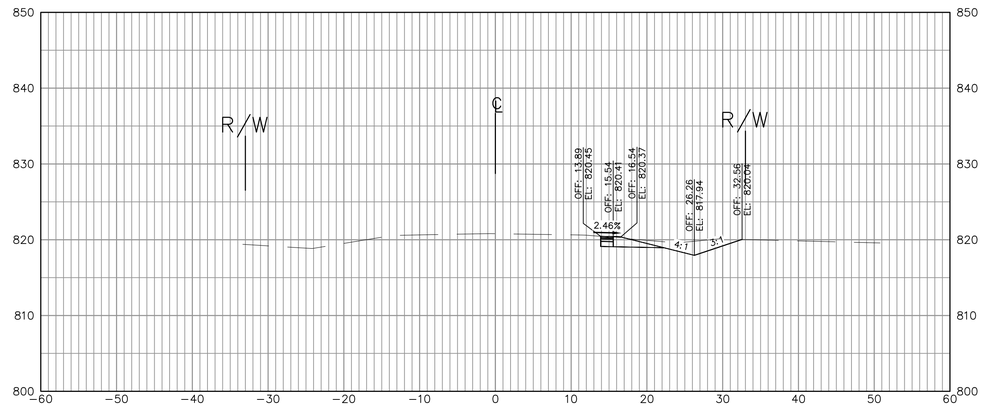
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

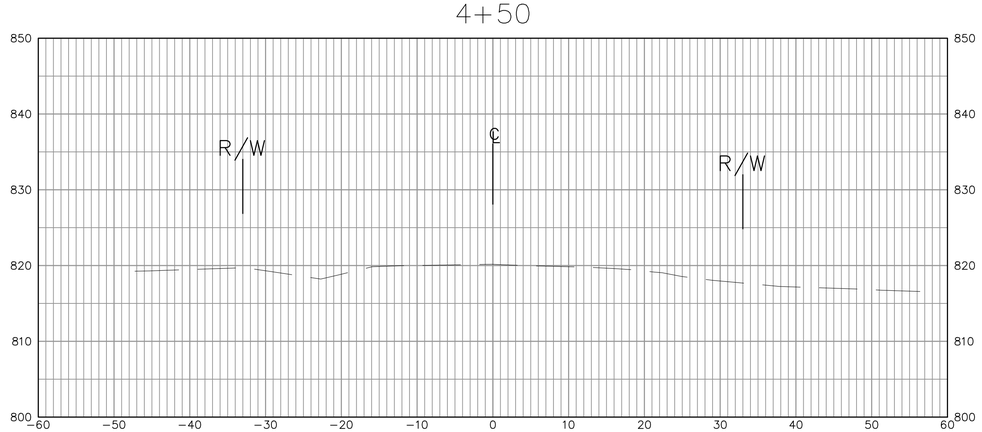
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Traffic Control Ph III Offsite.dwg Layout: C-10.5 User: inewman Plotted: Nov 09, 2018 – 11:13am Xrefs:

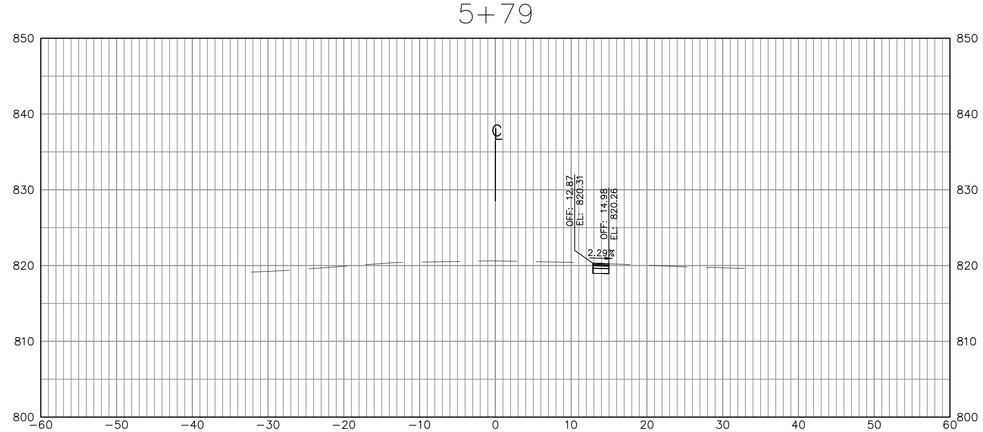












JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

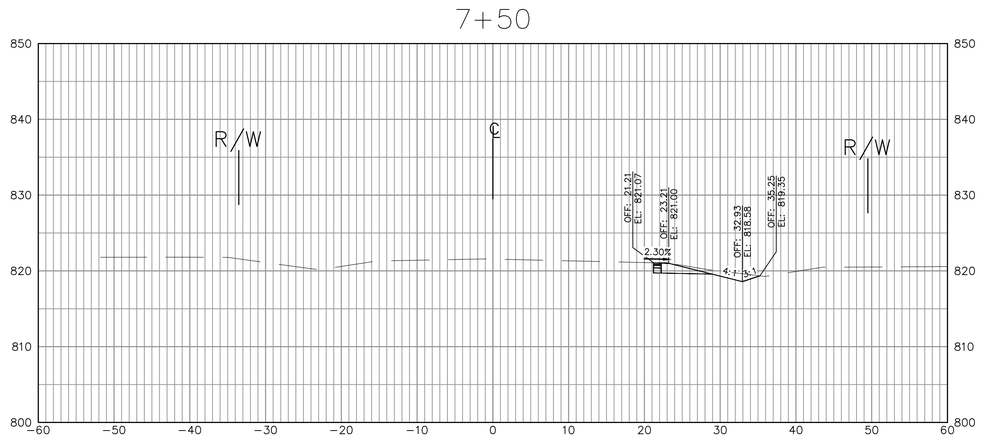
SHEET TITLE:
CTH PF CROSS SECTIONS
DATE 11-07-18

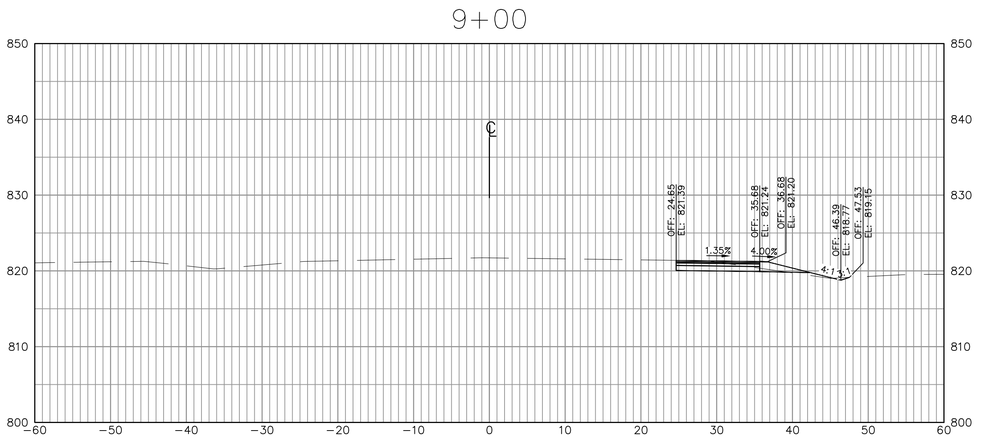
SHEET NUMBER:
C-11.0

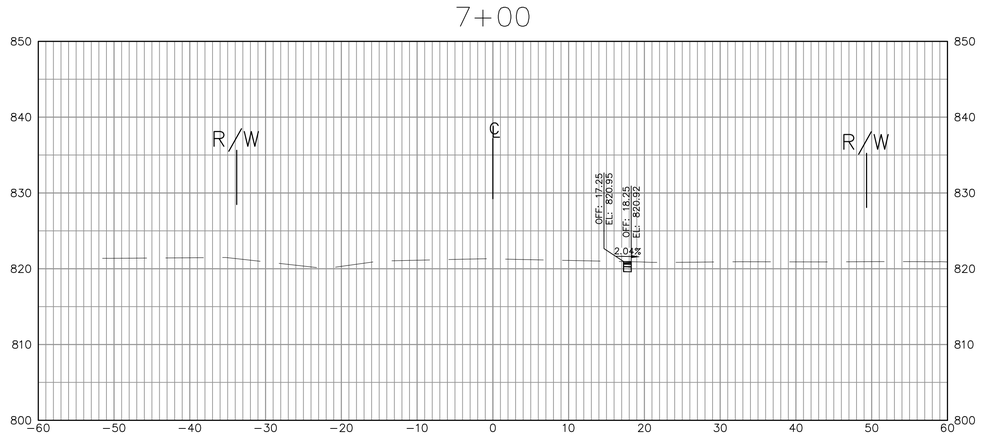
JSD PROJECT NO: 16-7186

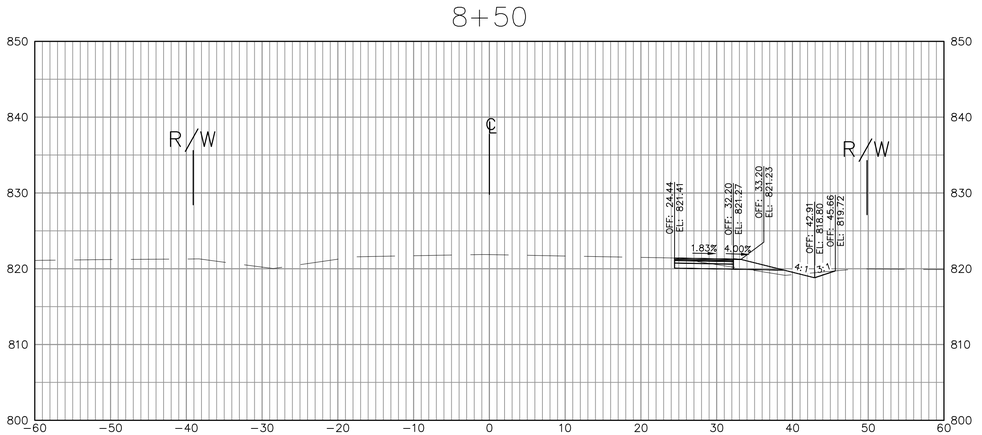
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

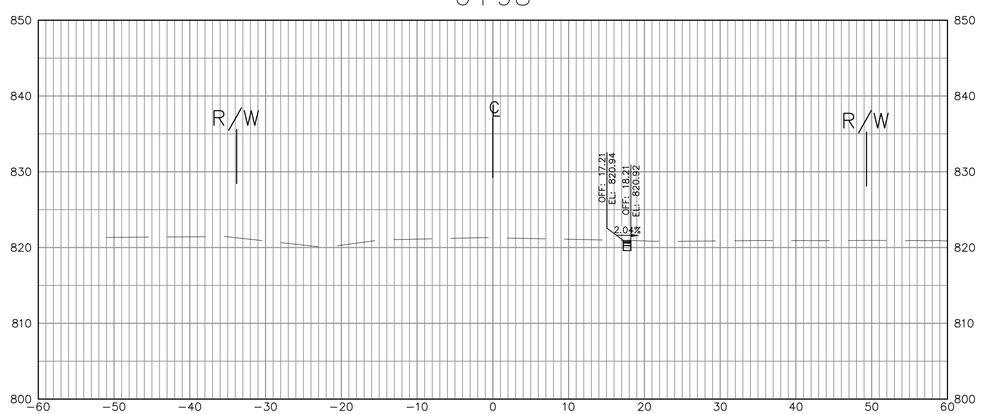
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.0 User: inewman Plotted: Nov 09, 2018 – 11:15am Xrefs:

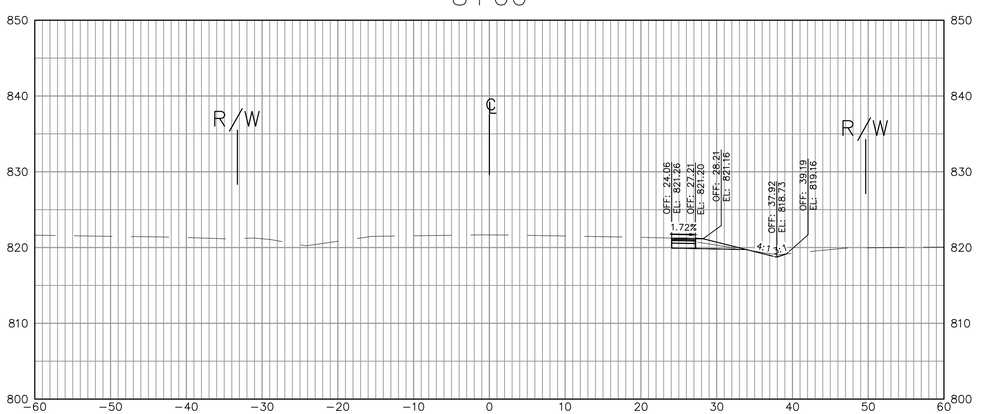












JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

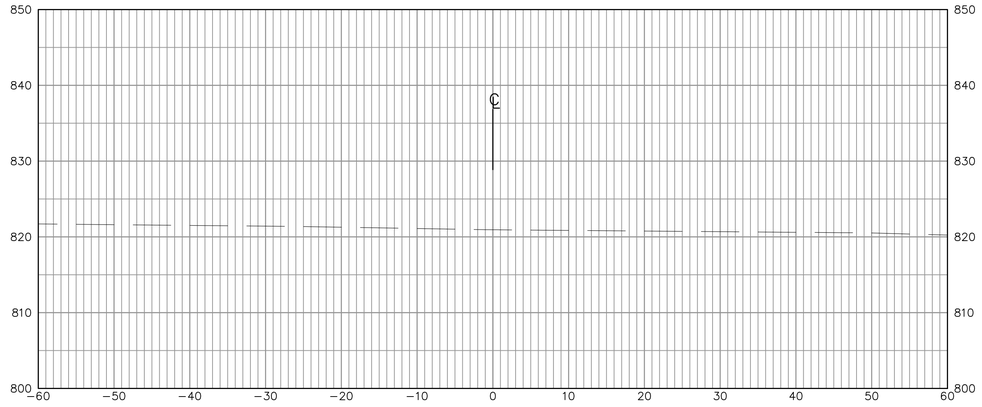
SHEET TITLE:
CTH PF CROSS SECTIONS
DATE 11-07-18

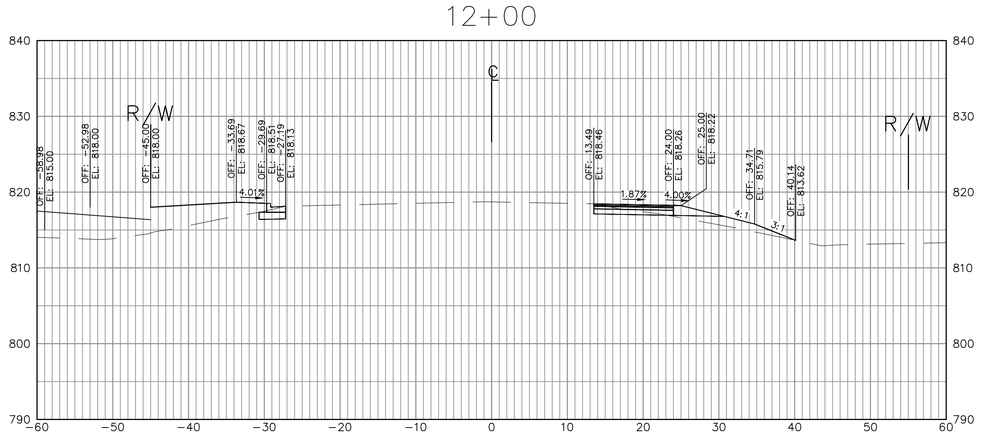
SHEET NUMBER:
C-11.1

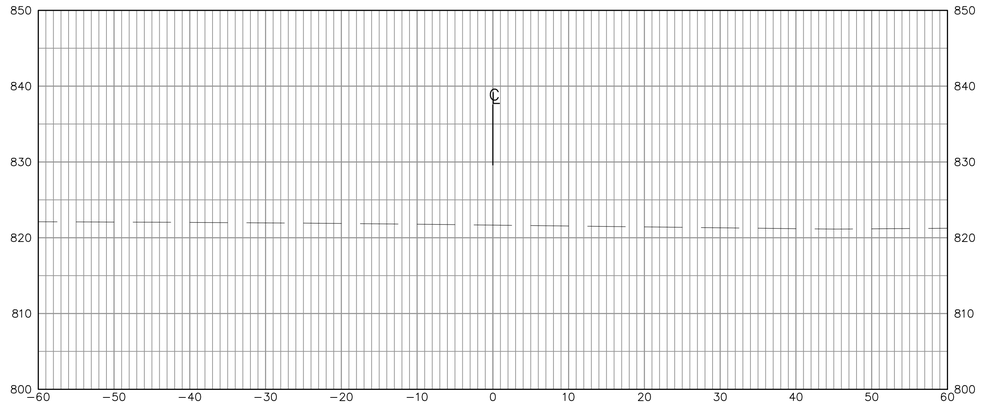
JSD PROJECT NO: 16-7186

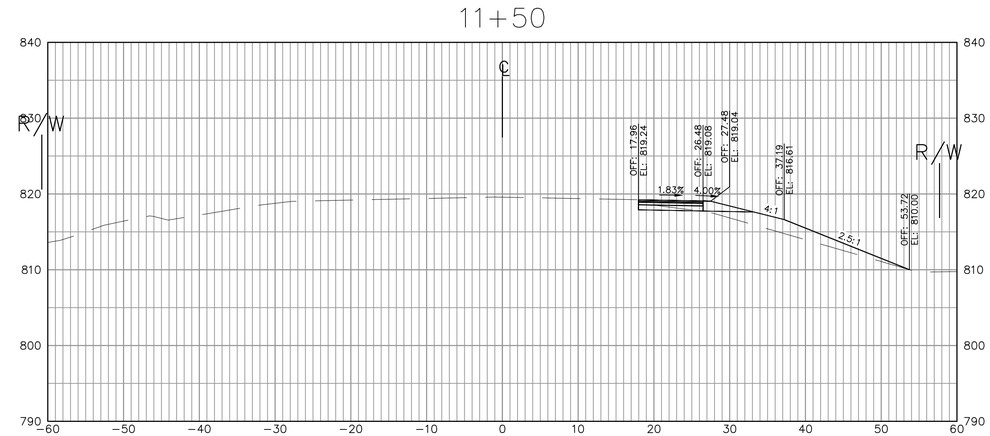
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

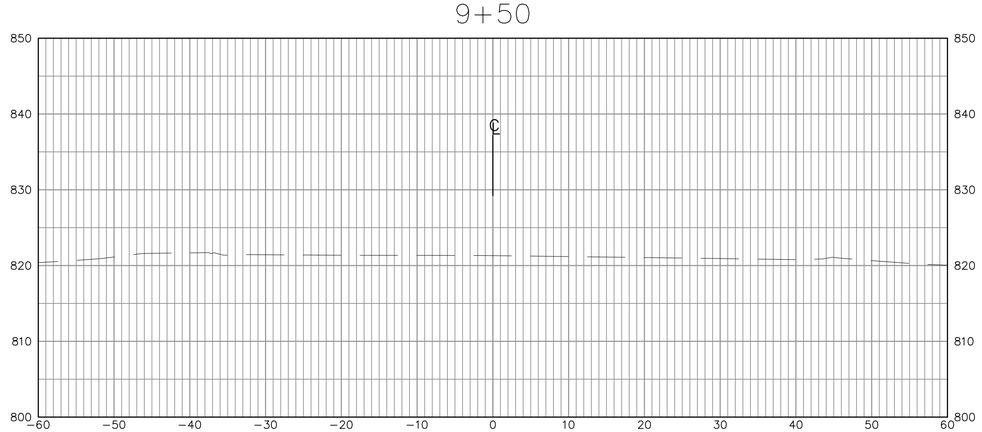
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.1 User: inewman Plotted: Nov 09, 2018 - 11:16am Xref's:

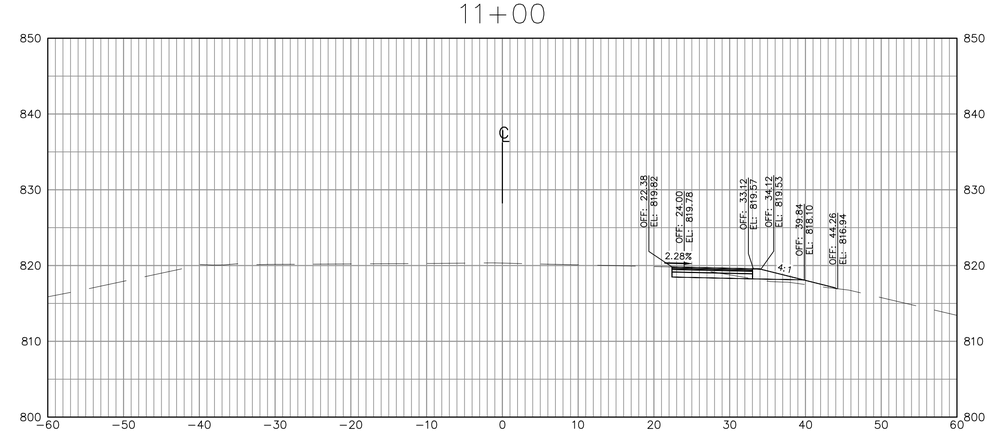












File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.2 User: inewman Plotted: Nov 09, 2018 – 11:16am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

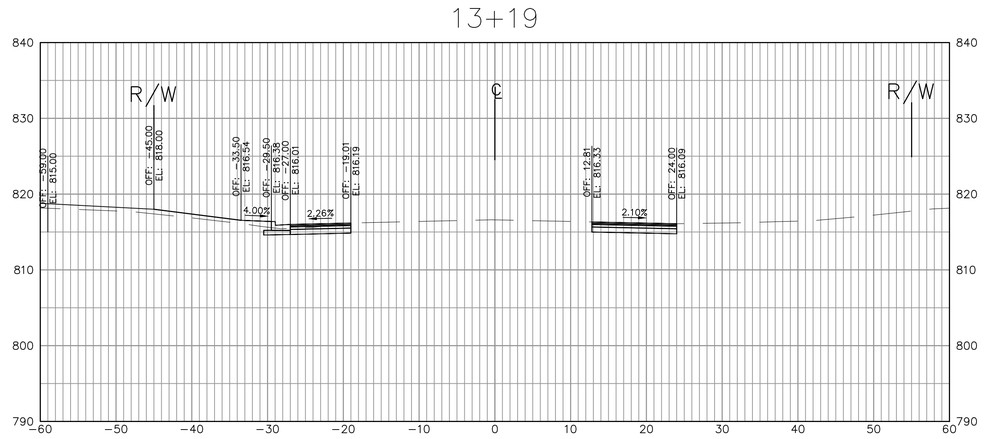
Design/Drawn:
Approved:

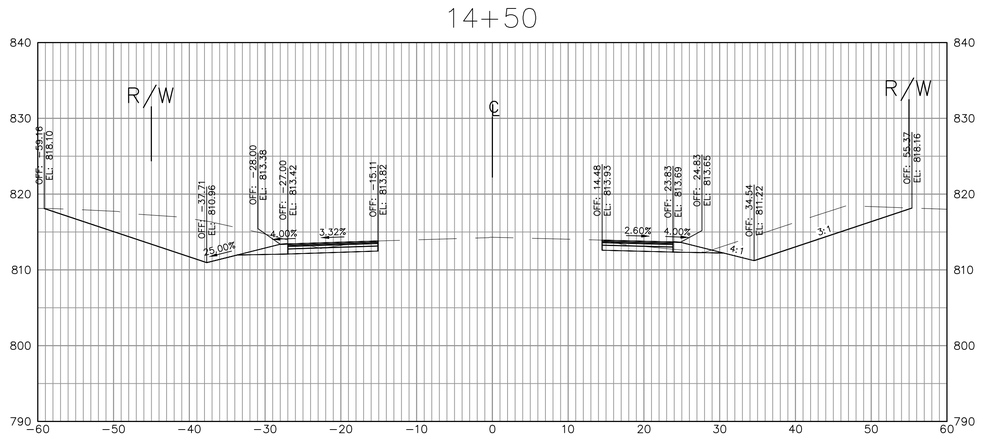
SHEET TITLE:
CTH PF CROSS SECTIONS
DATE 11-07-18

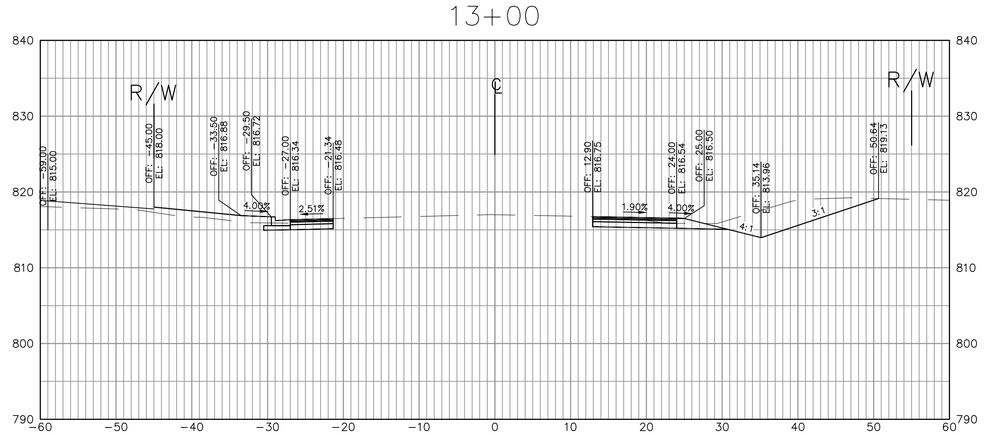
SHEET NUMBER:
C-11.2

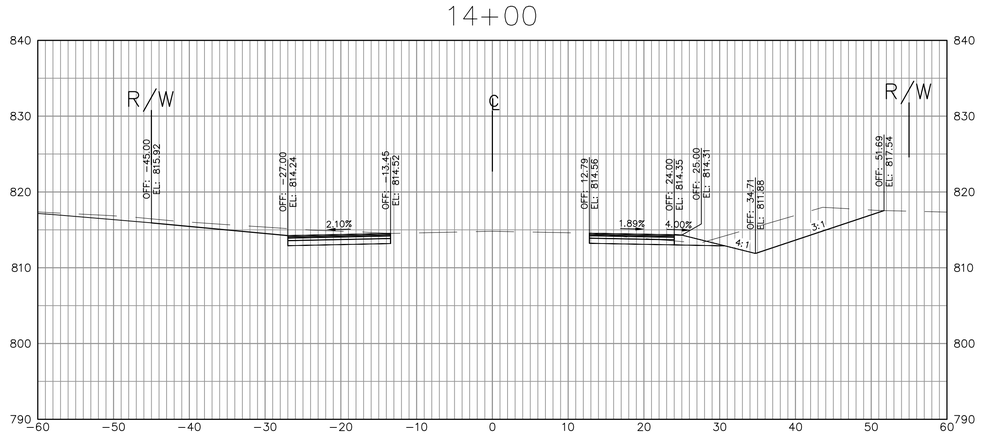
JSD PROJECT NO: 16-7186

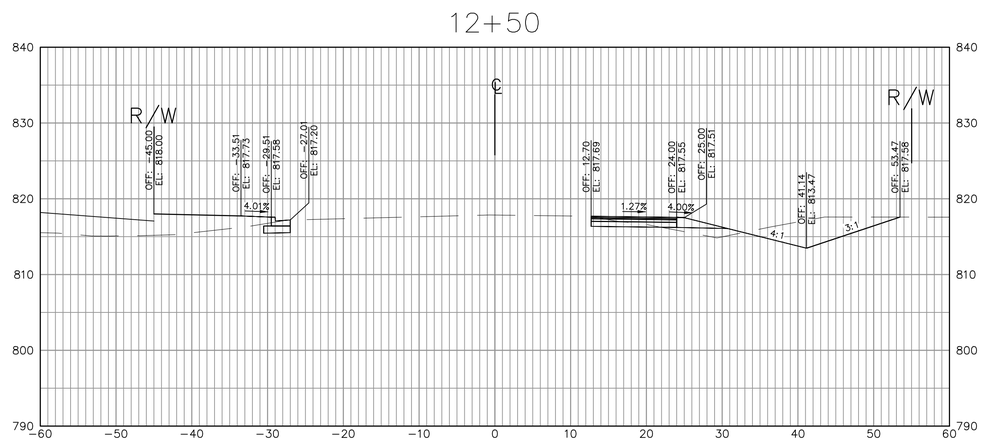
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

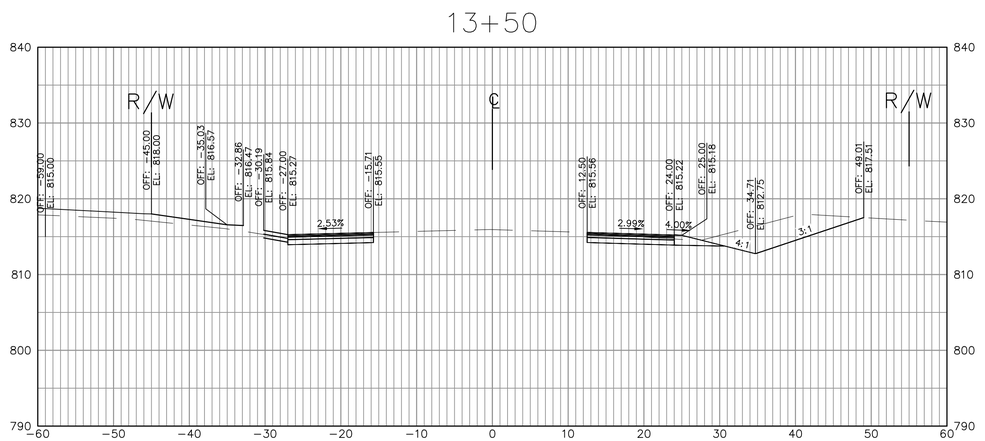












JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

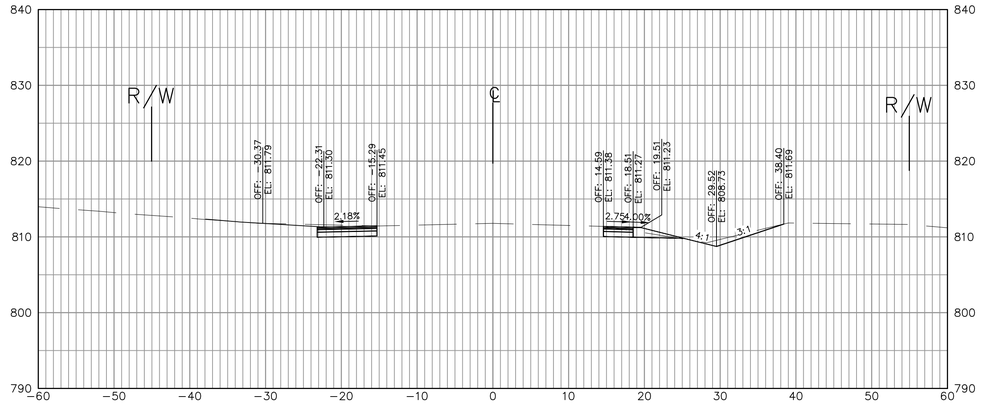
SHEET TITLE:
CTH PF
CROSS SECTIONS
DATE 11-07-18

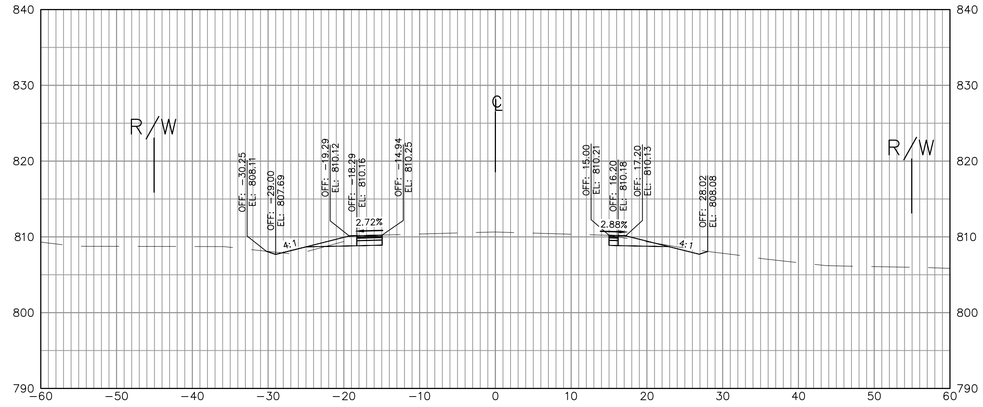
SHEET NUMBER:
C-11.3

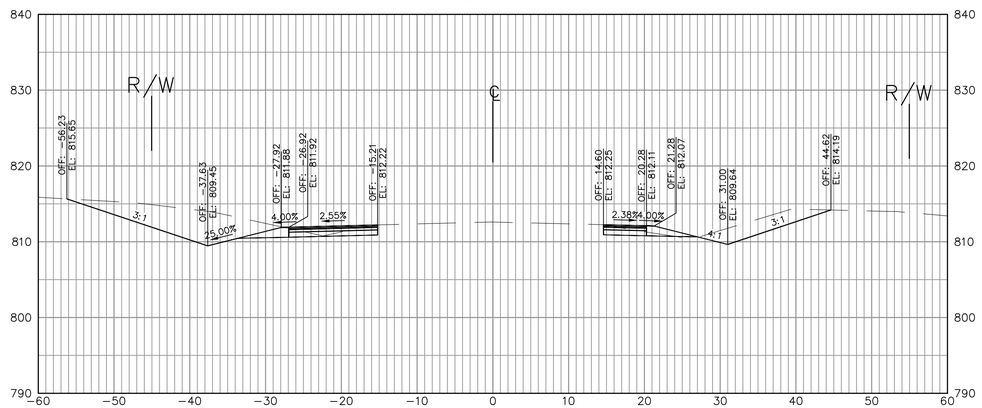
JSD PROJECT NO: 16-7186

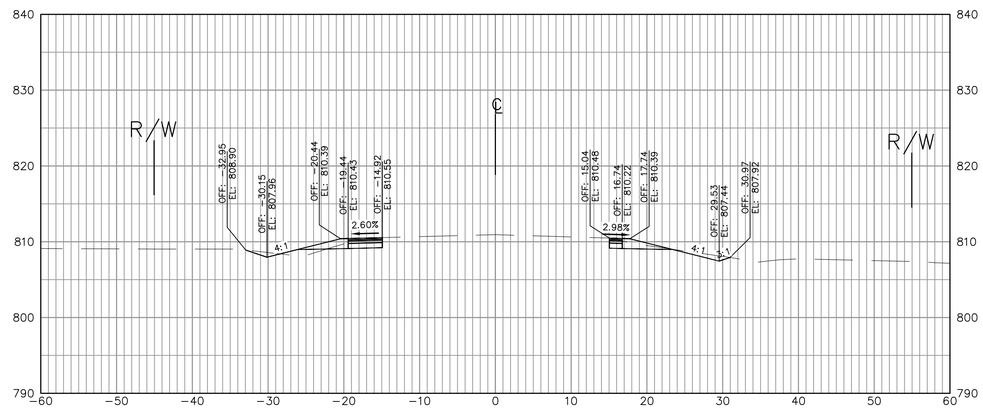
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

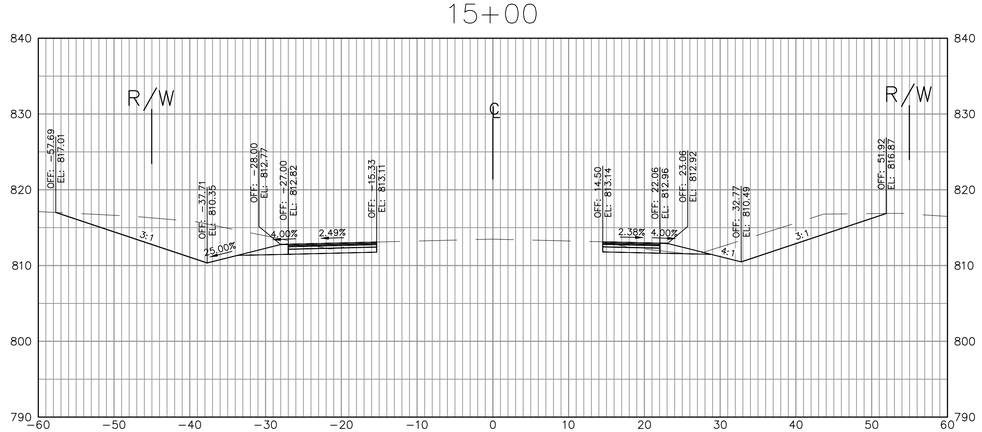
File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.3 User: inewman Plotted: Nov 09, 2018 - 11:16am Xref's:

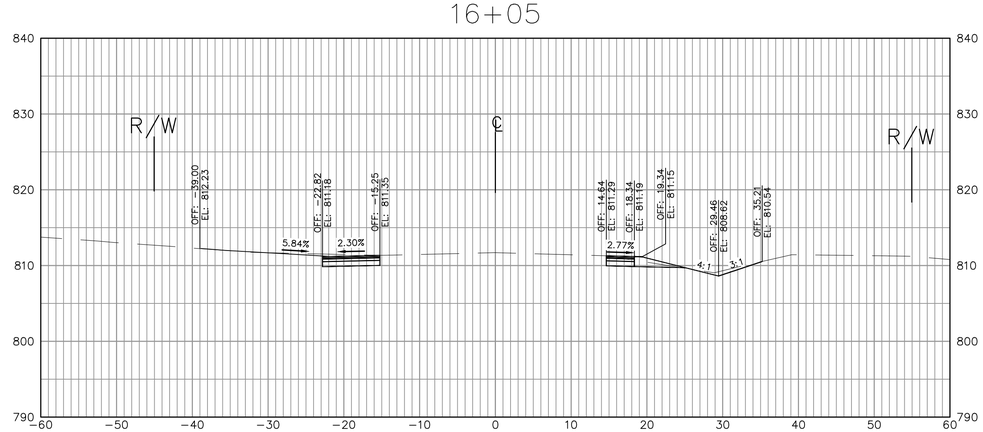












JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

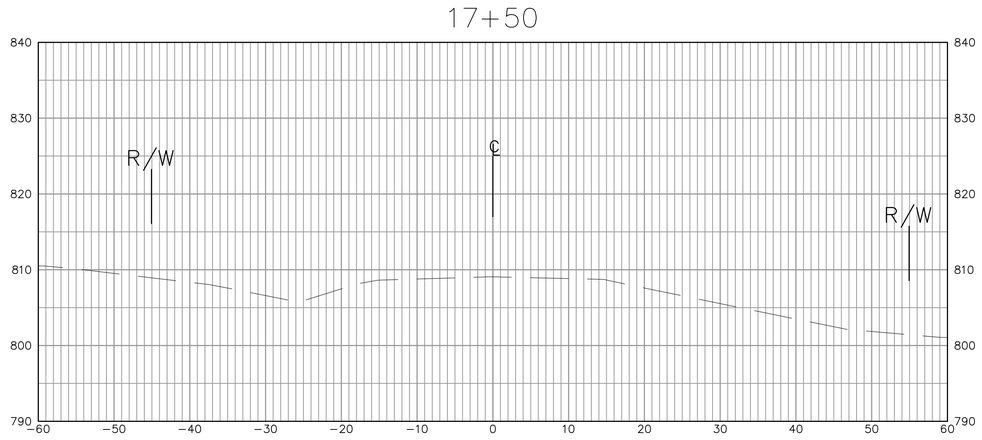
SHEET TITLE:
CTH PF CROSS SECTIONS
DATE 11-07-18

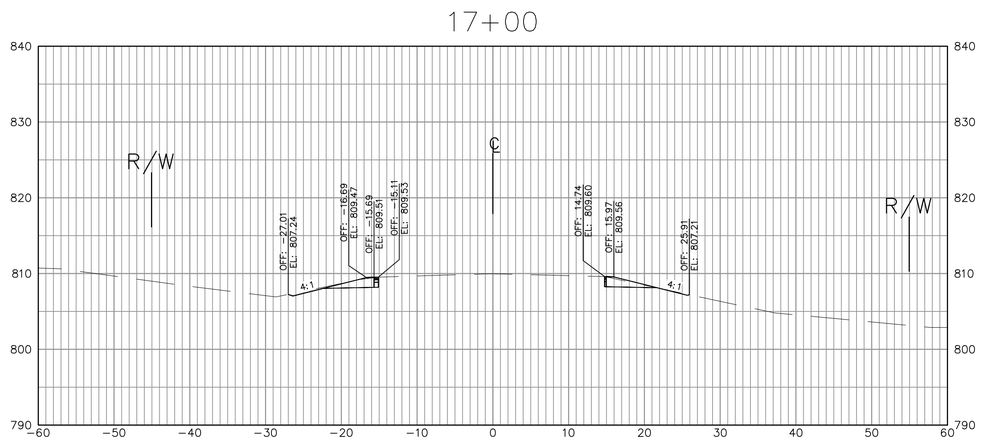
SHEET NUMBER:
C-11.4

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.4 User: inewman Plotted: Nov 09, 2018 – 11:16am Xref's:





File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.5 User: inewman Plotted: Nov 09, 2018 – 11:16am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

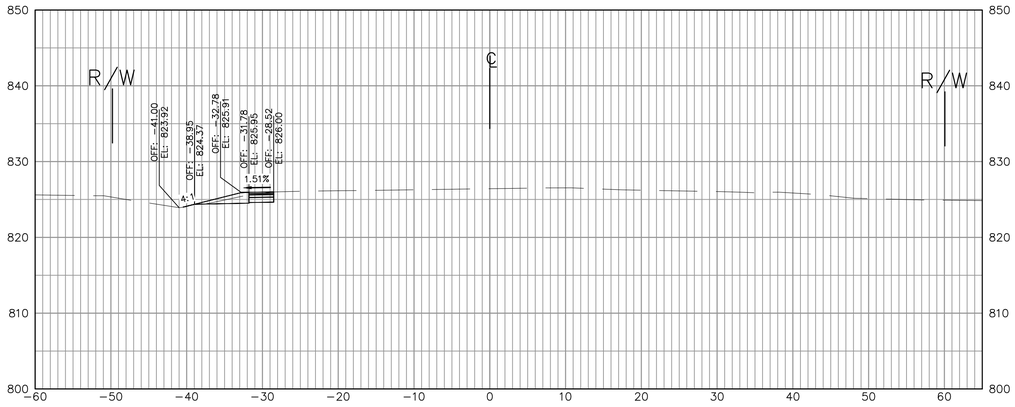
SHEET TITLE:
CTH PF CROSS SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-11.5

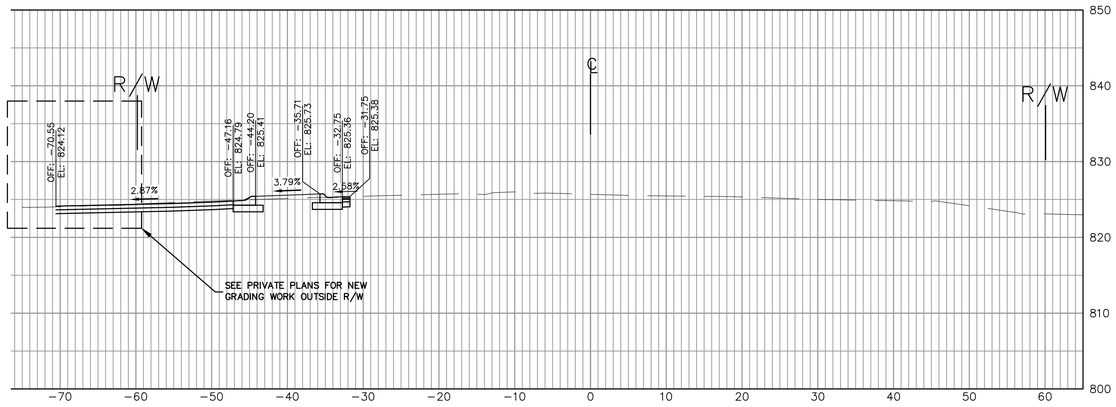
JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

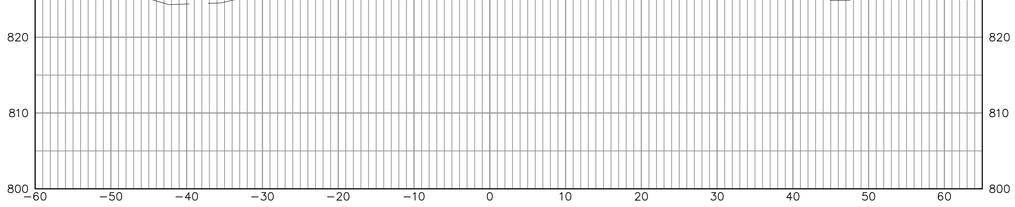
765+50



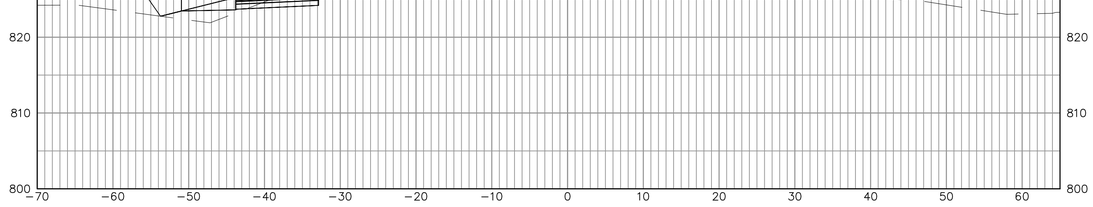
766+95



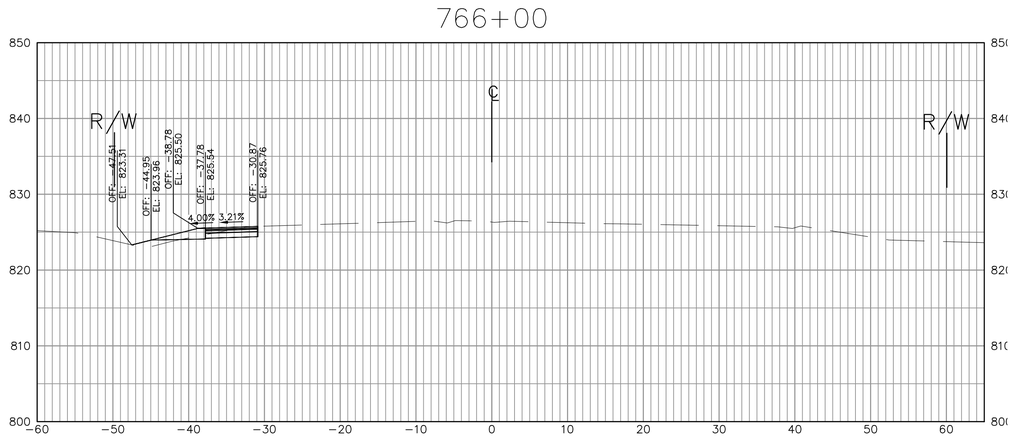
765+00



766+50



766+00



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
USH 12
CROSS SECTIONS
DATE 11-07-18

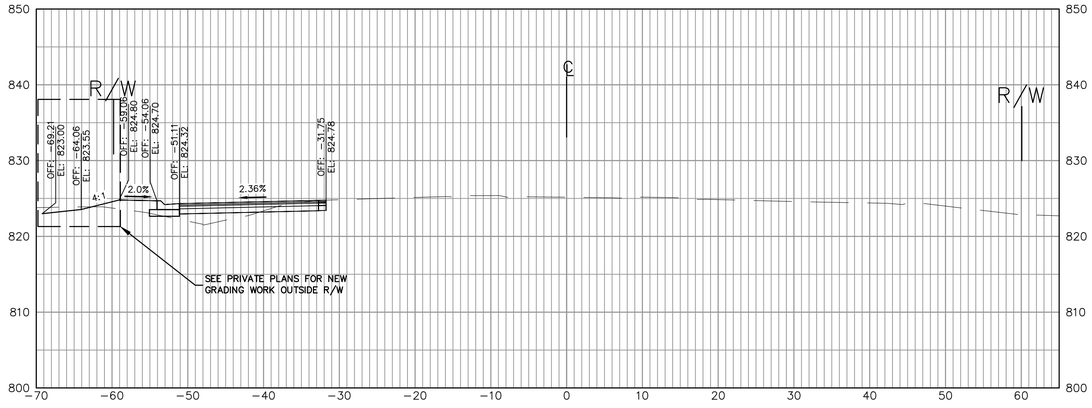
SHEET NUMBER:
C-11.6

JSD PROJECT NO: 16-7186

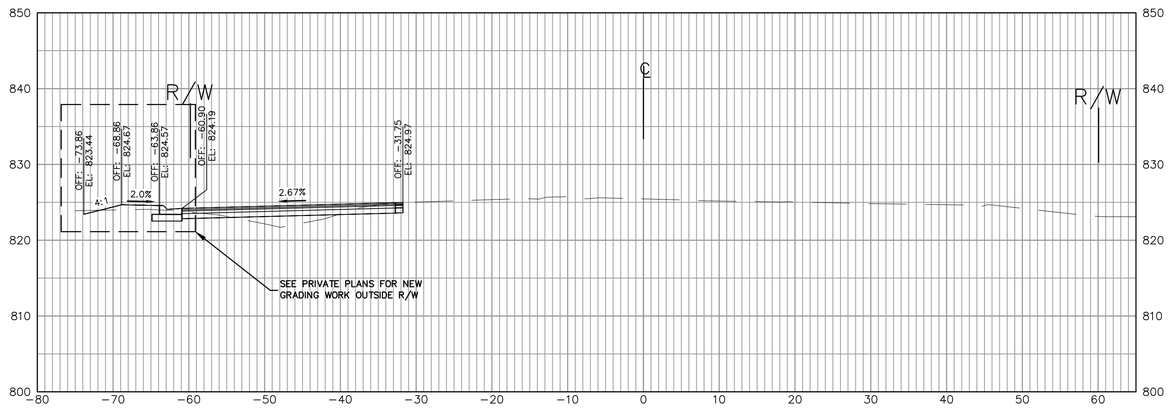
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip--prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.6 User: inewmon Plotted: Nov 09, 2018 - 11:16am Xref's:

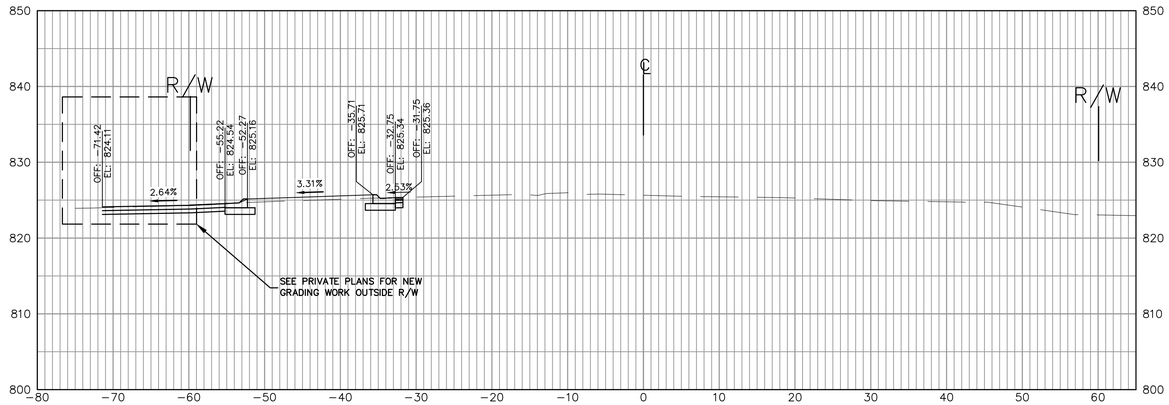
768+00



767+50



767+00



File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.7 User: inewman Plotted: Nov 09, 2018 - 11:17am Xrefs:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

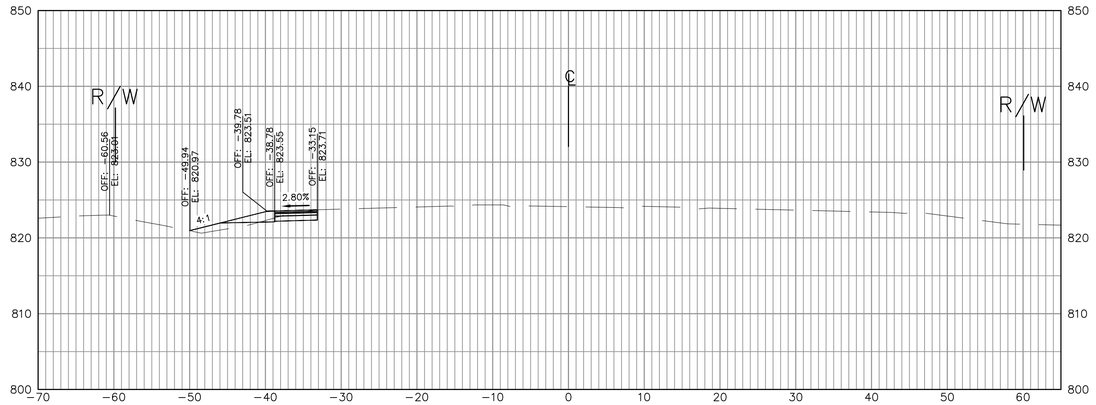
SHEET TITLE:
USH 12
CROSS SECTIONS
DATE 11-07-18

SHEET NUMBER:
C-11.7

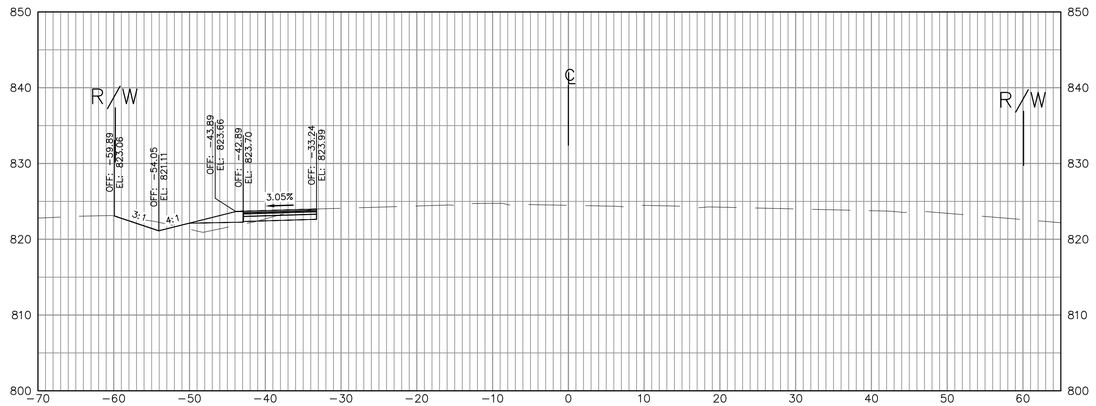
JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

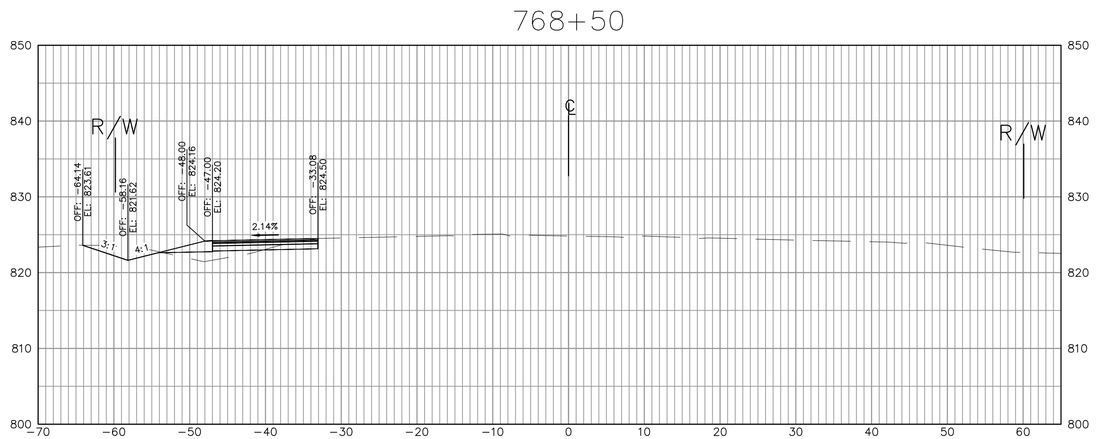
769+50



769+00



768+50



JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

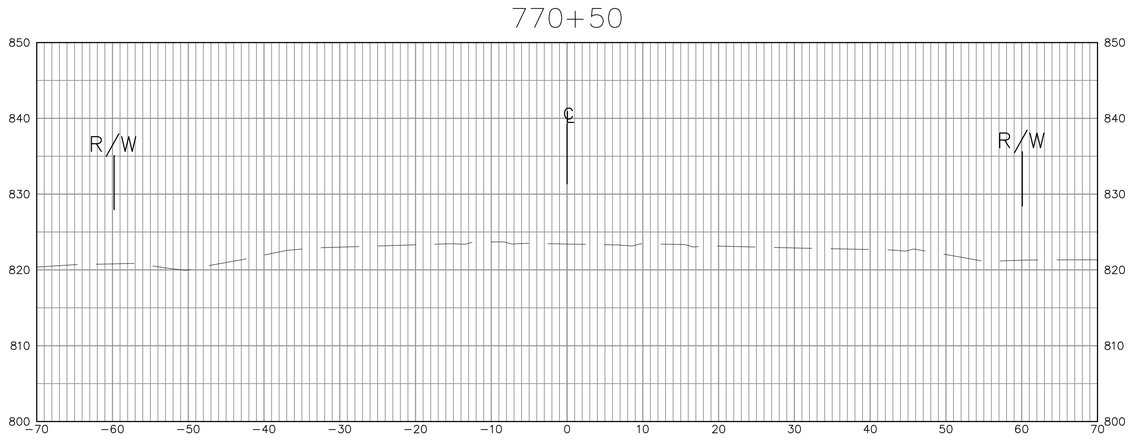
SHEET TITLE:
USH 12
CROSS SECTIONS
DATE 11-07-18

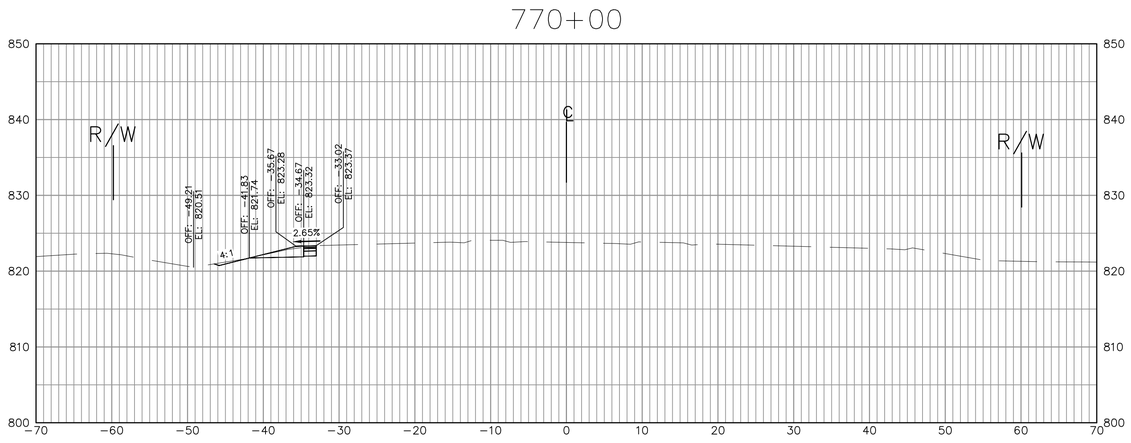
SHEET NUMBER:
C-11.8

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.8 User: inewman Plotted: Nov 09, 2018 - 11:17am Xref's:





JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
OFFSITE IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

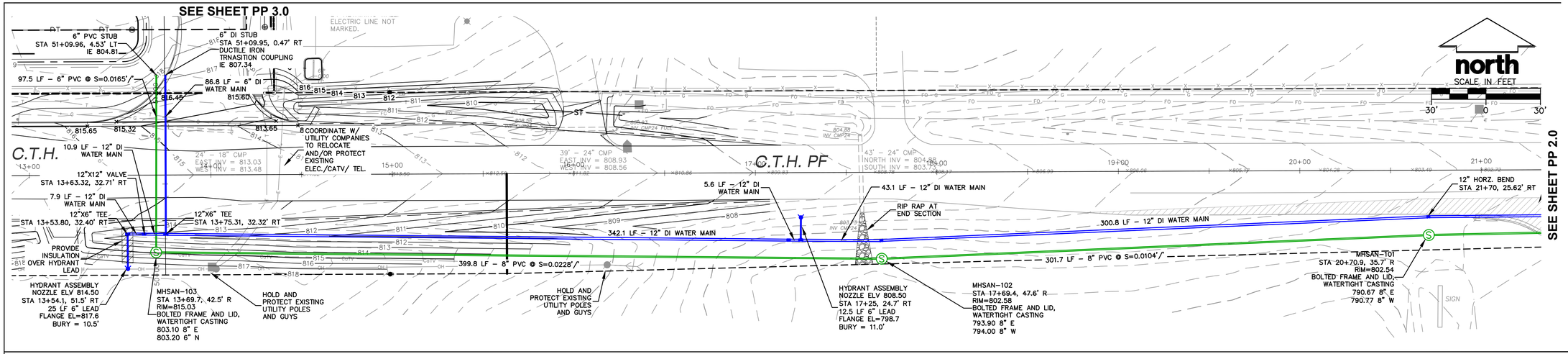
SHEET TITLE:
USH 12
CROSS SECTIONS
DATE 11-07-18

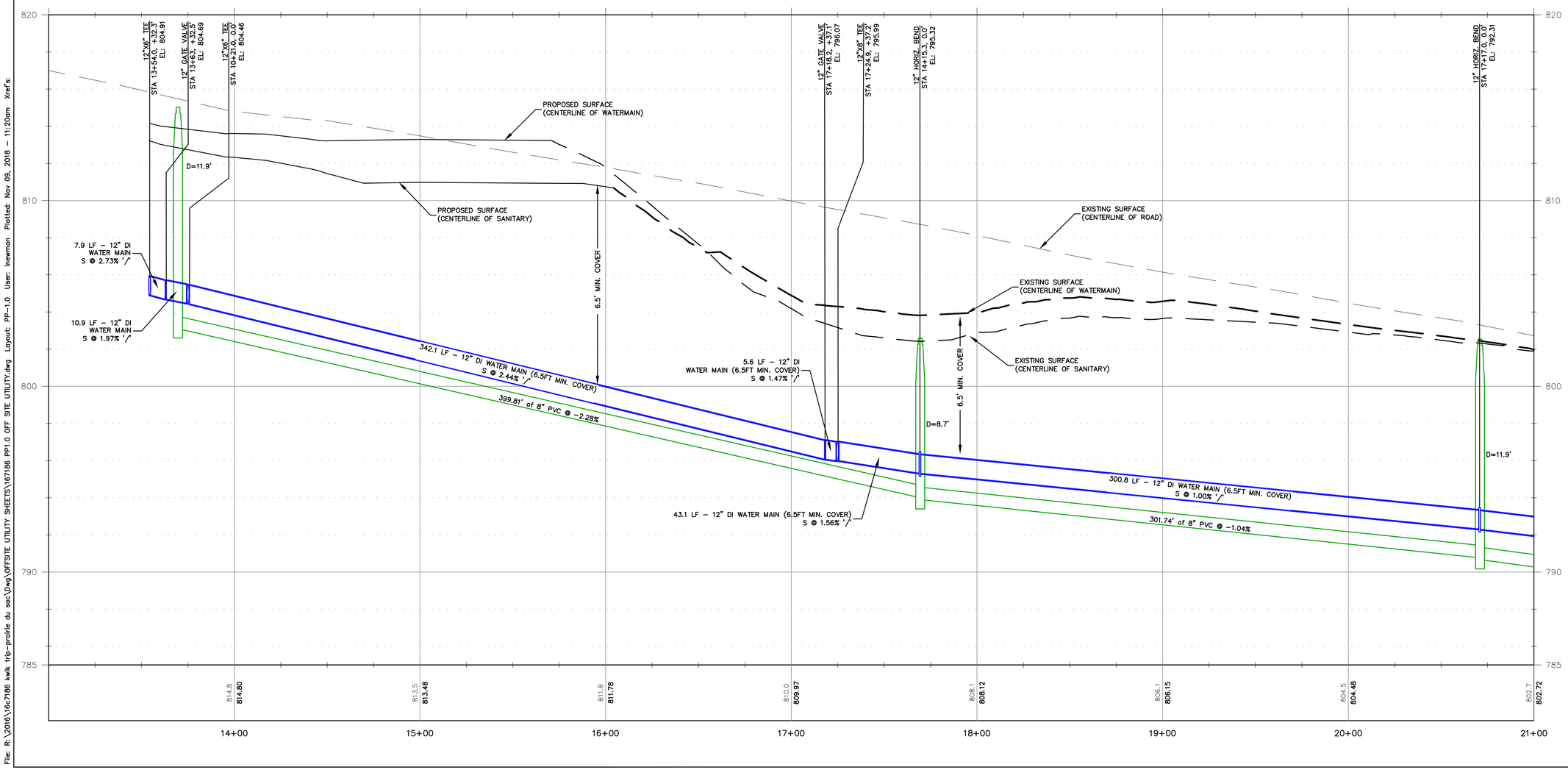
SHEET NUMBER:
C-11.9

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\offsite sheets\167186 SHEET Cross Sections Offsite.dwg Layout: C-11.9 User: inewman Plotted: Nov 09, 2018 - 11:17am Xrefs:





File: R:\2016\16c7186 kwik trip–prairie du sac\Dwg\OFFSITE UTILITY SHEETS\167186 PP1.0 OFF SITE UTILITY.dwg Layout: PP–1.0 User: inewman Plotted: Nov 09, 2018 – 11:20am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
CTH "PF" SANITARY & WATER IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

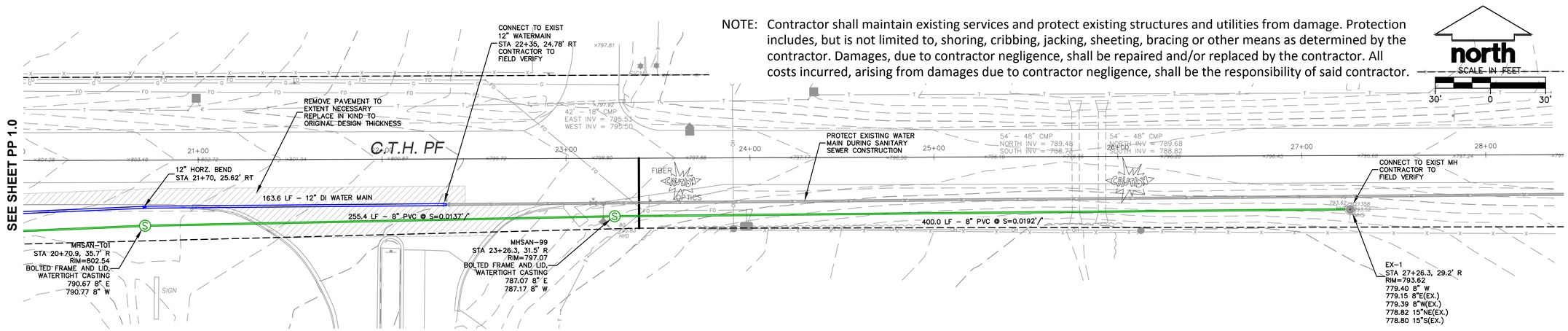
Design/Drawn:
Approved:

SHEET TITLE:
PUBLIC WATERMAIN & SANITARY SEWER EXTENSION PLAN & PROFILE
DATE 11-07-18

SHEET NUMBER:
PP-1.0

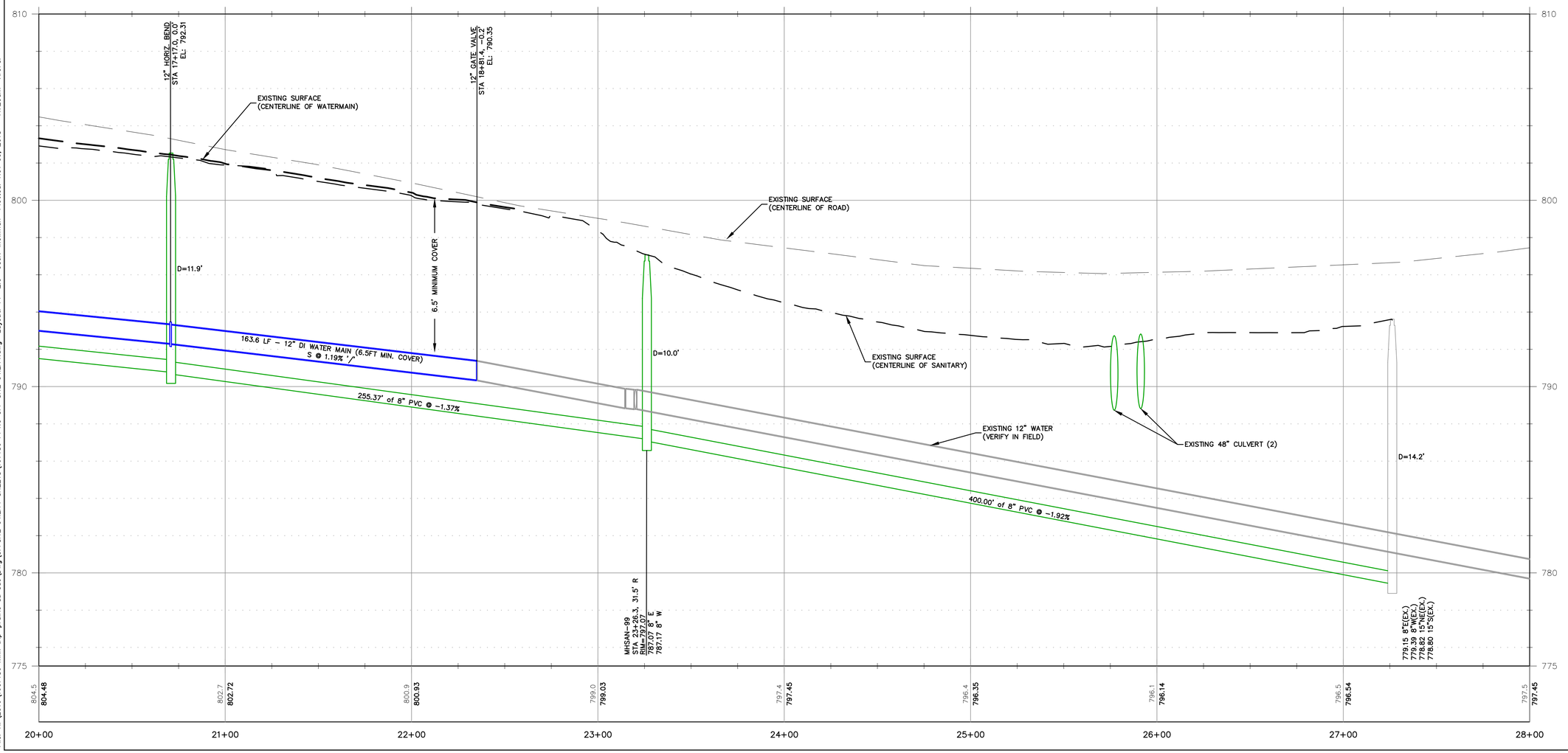
JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.



NOTE: Contractor shall maintain existing services and protect existing structures and utilities from damage. Protection includes, but is not limited to, shoring, cribbing, jacking, sheeting, bracing or other means as determined by the contractor. Damages, due to contractor negligence, shall be repaired and/or replaced by the contractor. All costs incurred, arising from damages due to contractor negligence, shall be the responsibility of said contractor.

north
SCALE IN FEET
30' 0 30'



File: R:\2016\16c7186 kwik trip–prairie du sac\Dwg\OFFSITE UTILITY SHEETS\167186 PP1.0 OFF SITE UTILITY.dwg Layout: PP–2.0 User: inewman Plotted: Nov 09, 2018 – 11:20am Xref's:

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
CTH "PF" SANITARY & WATER IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

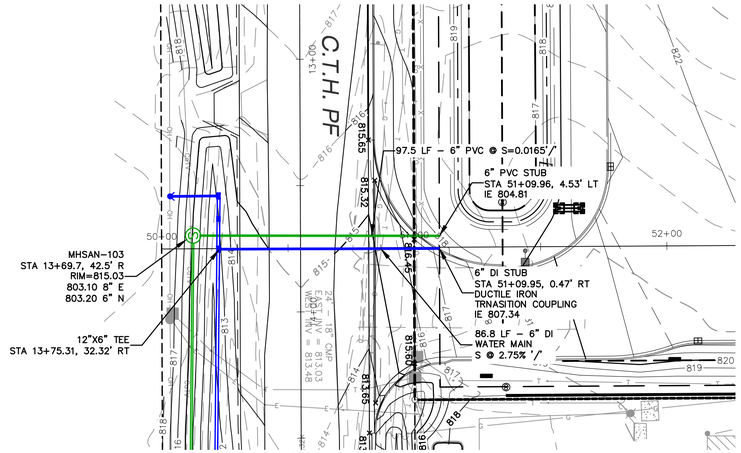
Design/Drawn:
Approved:

SHEET TITLE:
PUBLIC WATERMAIN & SANITARY SEWER EXTENSION PLAN & PROFILE
DATE 11-07-18

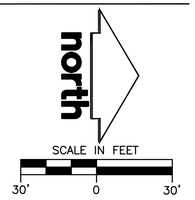
SHEET NUMBER:
PP-2.0

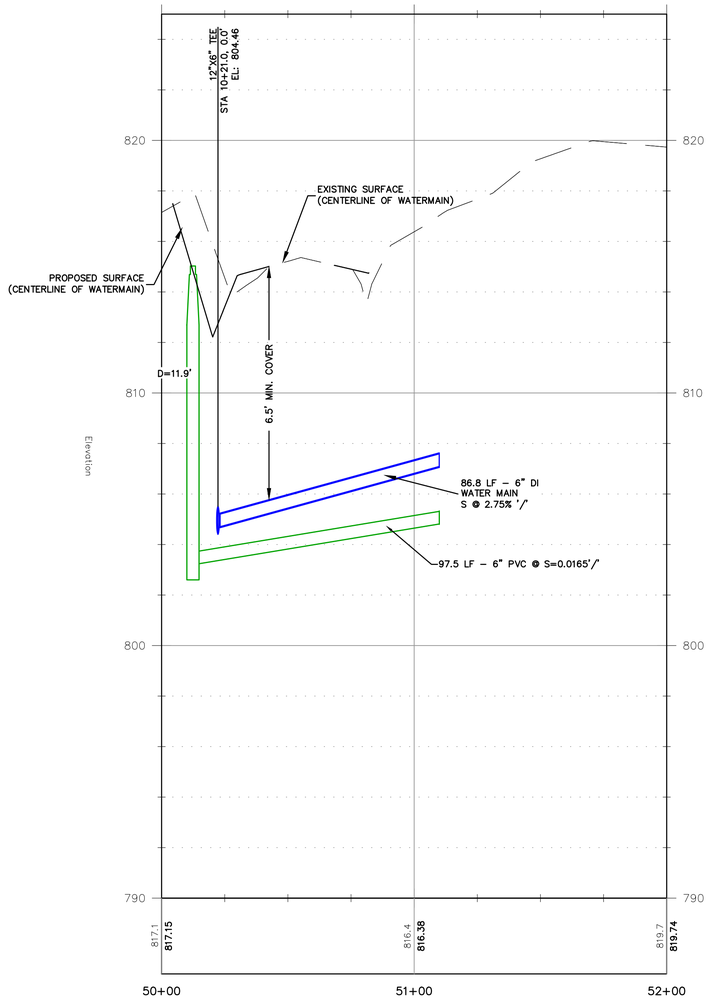
JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.



SEE SHEET PP 1.0





JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
CTH "PF" SANITARY & WATER IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

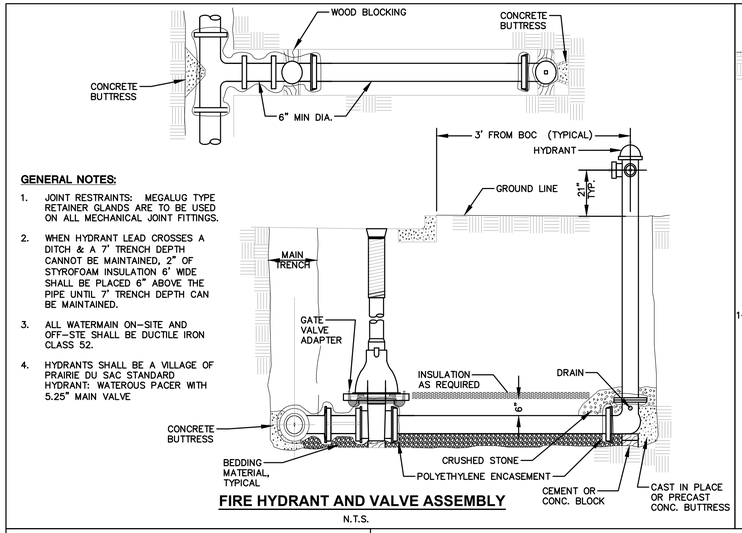
SHEET TITLE:
WATERMAIN & SANITARY SEWER EXTENSION LATERALS PLAN & PROFILE
DATE 11-07-18

SHEET NUMBER:
PP-3.0

JSD PROJECT NO: 16-7186

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip--prairie du sac\Dwg\OFFSITE UTILITY SHEETS\167186 PP1.0 OFF SITE UTILITY.dwg Layout: PP-3.0 User: inewman Plotted: Nov 09, 2018 - 11:20am Xref's:

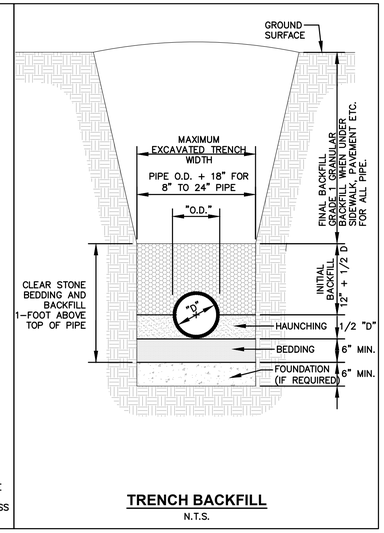


GENERAL NOTES:

1. JOINT RESTRAINTS: MEGALUG TYPE RETAINER GLANDS ARE TO BE USED ON ALL MECHANICAL JOINT FITTINGS.
2. WHEN HYDRANT LEAD CROSSES A DITCH & A 7' TRENCH DEPTH CANNOT BE MAINTAINED, 2" OF STYROFOAM INSULATION 6' WIDE SHALL BE PLACED 6" ABOVE THE PIPE UNTIL 7' TRENCH DEPTH CAN BE MAINTAINED.
3. ALL WATERMAIN ON-SITE AND OFF-STE SHALL BE DUCTILE IRON CLASS 52.
4. HYDRANTS SHALL BE A VILLAGE OF PRAIRIE DU SAC STANDARD HYDRANT: WATEROUS PACER WITH 5.25" MAIN VALVE

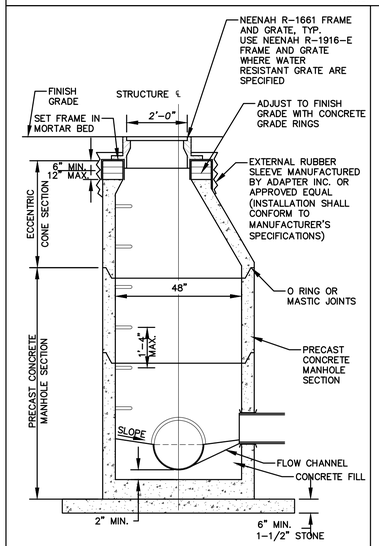
FIRE HYDRANT AND VALVE ASSEMBLY

N.T.S.



TRENCH BACKFILL

N.T.S.



GENERAL NOTES:

1. MANHOLE CONSTRUCTION TO MEET REQUIREMENTS OF ASTM C478.
2. JOINTS SHALL BE WATERTIGHT. USE BUTYL RUBBER GASKET.
3. USE MORTAR FOR PIPE CONNECTIONS.
4. ALL MANHOLES SHALL HAVE RUBBER CHIMNEY BOOT SEALS.

SANITARY SEWER MANHOLE

N.T.S.

UTILITY NOTES

1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND/OR TO AVOID DAMAGE THERETO. CONTRACTOR SHALL CALL "DIGGER'S HOTLINE" PRIOR TO ANY CONSTRUCTION.
2. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN (WISCONSIN LATEST EDITION AND ADDENDUM) AND ALL STATE AND LOCAL CODES AND SPECIFICATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE WHICH SPECIFICATIONS AND CODES APPLY, AND TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE APPROPRIATE LOCAL AND STATE AUTHORITIES.
3. UTILITY CONSTRUCTION AND SPECIFICATIONS SHALL COMPLY WITH THE VILLAGE OF PRAIRIE DU SAC SPECIAL PROVISIONS AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES DSPS 382.
4. TRACER WIRES SHALL BE INSTALLED AS NECESSARY IN ACCORD WITH 182.0715(2R) OF THE STATE STATUTES AND VILLAGE OF PRAIRIE DU SAC REQUIREMENTS.
5. LENGTHS OF PROPOSED UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS ARE SHOWN FOR CONTRACTOR CONVENIENCE ONLY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPUTATIONS OF MATERIALS REQUIRED TO COMPLETE WORK. LENGTHS SHALL BE FIELD VERIFIED DURING CONSTRUCTION.
6. CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT EXISTING UTILITY COVERS (SUCH AS MANHOLE COVERS, VALVE BOX COVERS, ETC.) TO MATCH FINISHED GRADES OF THE AREAS DISTURBED DURING CONSTRUCTION.
7. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF PROPOSED UTILITIES AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS PRIOR TO ATTEMPTING CONNECTIONS AND BEGINNING UTILITY CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS FROM THE VILLAGE OF PRAIRIE DU SAC PRIOR TO ANY EXCAVATION IN THE ROAD RIGHT-OF-WAY.
9. SLURRY BACKFILL IS REQUIRED IN THE ROAD RIGHT-OF-WAY.
10. WATER MAIN SPECIFICATIONS –

    PIPE – WATER MAIN SHALL BE DUCTILE IRON, CLASS 52.

    TAPPING SADDLES, CORP STOPS, CURB STOPS AND CURB STOP BOXES SHALL MEET THE APPROVED MATERIAL SPECIFICATIONS LIST OF THE VILLAGE UTILITIES DEPT. ALL MATERIALS ARE TO BE INSPECTED BY THE VILLAGE UTILITIES DEPT. PRIOR TO INSTALLATION.

    BEDDING AND COVER MATERIAL – PIPE BEDDING AND 1' OF COVER MATERIAL SHALL BE CLEAR STONE.

    BACKFILL – BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.43.5 OF THE "STANDARD SPECIFICATIONS".

11. SANITARY SEWER SPECIFICATIONS –

    PIPE – SANITARY SEWER PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) MEETING REQUIREMENTS OF ASTM D 3034, SDR-35, WITH INTEGRAL BELL TYPE FLEXIBLE ELASTOMERIC JOINTS, MEETING THE REQUIREMENTS OF ASTM D-3212.

    BEDDING AND COVER MATERIAL – BEDDING AND COVER MATERIAL SHALL CONFORM TO THE APPROPRIATE SECTIONS OF THE "STANDARD SPECIFICATION" WITH THE FOLLOWING MODIFICATION: "COVER MATERIAL SHALL BE THE SAME AS USED FOR BEDDING AND SHALL CONFORM TO SECTION 8.43.2 (A). BEDDING AND COVER MATERIAL SHALL BE PLACED IN A MINIMUM OF THREE SEPARATE LIFTS, OR AS REQUIRED TO INSURE ADEQUATE COMPACTING OF THESE MATERIALS, WITH ONE LIFT OF BEDDING MATERIAL ENDING AT OR NEAR THE SPRINGLINE OF THE PIPE. THE CONTRACTOR SHALL TAKE CARE TO COMPLETELY WORK BEDDING MATERIAL UNDER THE HAUNCH OF THE PIPE TO PROVIDE ADEQUATE SIDE SUPPORT."

    BACKFILL – BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS." GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.43.5 OF THE "STANDARD SPECIFICATIONS."

    MANHOLES – MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH FILE NOS. 12, 13, AND 15 OF THE "STANDARD SPECIFICATIONS" AND ALL SPECIAL PROVISIONS OF THE VILLAGE OF PRAIRIE DU SAC.

    MANHOLE FRAMES AND COVERS – MANHOLE FRAMES AND COVERS SHALL BE NEENAH R-1580 WITH TYPE "B" SELF-SEALING LIDS, NON-ROCKING OR EQUAL

    THE 48" SANITARY SAMPLING MANHOLES ARE TO MEET THE REQUIREMENTS OF FILE NO. 23 OF THE WISCONSIN STANDARD SPECIFICATIONS AND SHALL HAVE AN INTERNAL/EXTERNAL CHIMNEY SEAL BY ADAPTOR. INC.

12. WATER MAIN AND SANITARY SEWER SHALL BE INSULATED WHEREVER THE DEPTH OF COVER IS LESS THAN 6 FEET. INSULATION AND PLACING OF INSULATION SHALL CONFORM TO CHAPTER 4.17.0 "INSULATION" OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN 6TH EDITION UPDATED WITH ITS LATEST ADDENDUM (TYP.)
13. TRACER WIRE SHALL BE INSTALLED ALONG THE SANITARY SEWER SERVICE. THE TRACER WIRE SHALL BE CONTINUOUS AND SHALL BE EXTENDED ABOVE GRADE VIA A 4-INCH PVC PIPE WITH SCREW-ON CAP ADJACENT TO THE PROPOSED TERMINATION POINT OF THE LATERAL FOR THE PROPOSED BUILDING.

JSD Professional Services, Inc.
Engineers • Surveyors • Planners

CREATE THE VISION TELL THE STORY

MADISON | MILWAUKEE
KENOSHA | APPLETON | WAUSAU

MADISON REGIONAL OFFICE
161 HORIZON DRIVE, SUITE 101
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
FORWARD DEVELOPMENT GROUP

CLIENT ADDRESS:
161 HORIZON DRIVE, STE.101A
VERONA, WI 53593

PROJECT:
CTH "PF"
SANITARY & WATER IMPROVEMENTS

PROJECT LOCATION:
TOWN/VILLAGE PRAIRIE DU SAC
SAUK COUNTY, WI

PLAN MODIFICATIONS:

#	Date:	Description:
1	7-10-18	VILLAGE COMMENTS
2	7-23-18	BID ALTERNATE
3	8-23-18	VILLAGE COMMENTS
4	9-24-18	VILLAGE RESUBMITTAL
5	10-16-18	VILLAGE/ WISDOT RESUB
6	11-7-18	WISDOT RESUBMITTAL

Design/Drawn:
Approved:

SHEET TITLE:
OFFSITE UTILITY DETAILS
DATE 11-07-18

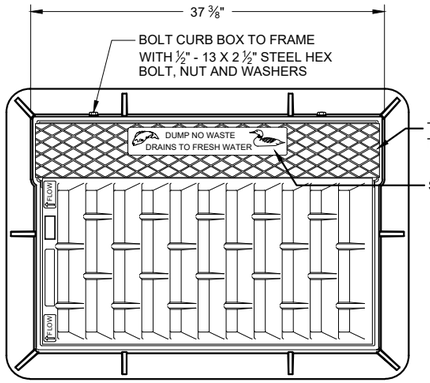
SHEET NUMBER:
PP4.0

JSD PROJECT NO: 16-7186

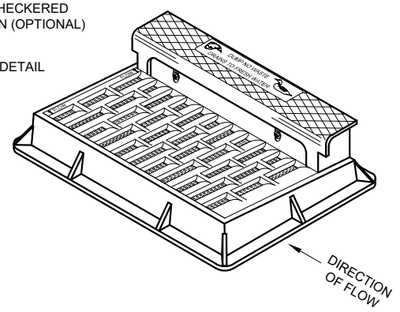
THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

File: R:\2016\16c7186 kwik trip-prairie du sac\Dwg\OFFSITE UTILITY SHEETS\167186 SHEET DETAILS OFFSITE UTILITY.dwg Layout: PP-4.0 User: inewman Plotted: Nov 09, 2018 - 11:20am Xref's:

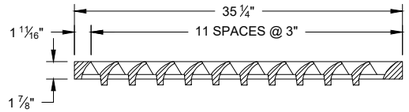
SDD 8a5-a Inlet Covers Type A, H, A-S, H-S and Z

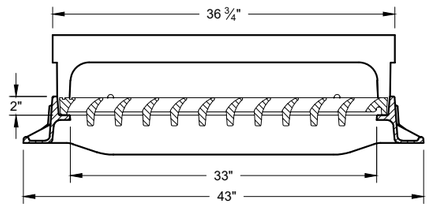


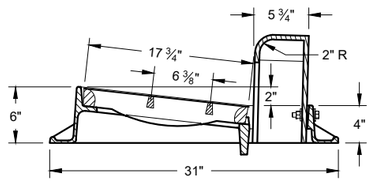
NOTE: EITHER CASTING IS ACCEPTABLE

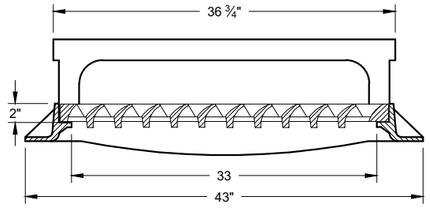


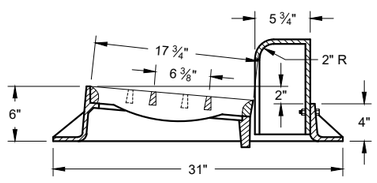
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"







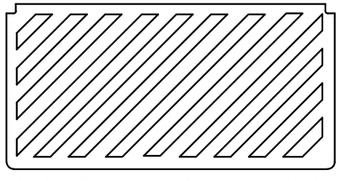




TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

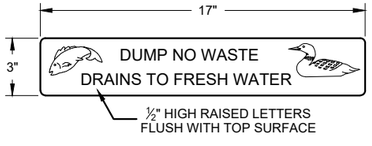
1 ⅛" DIAGONAL BARS WITH 1 ⅝" OPENINGS



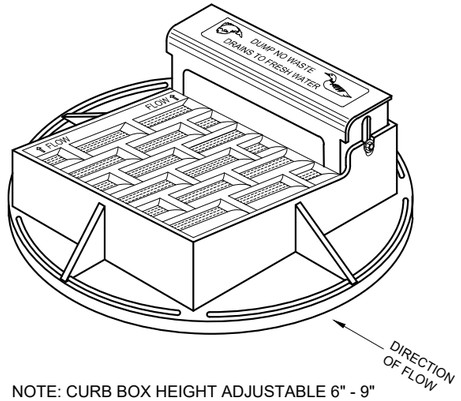
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 ¾" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

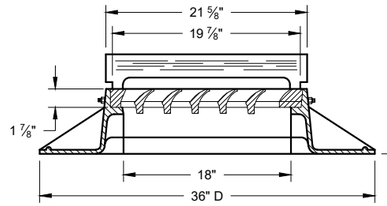


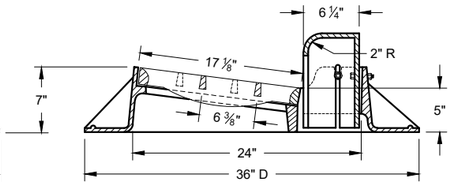
LOGO DETAIL

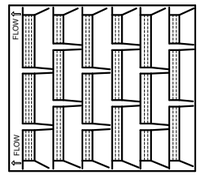


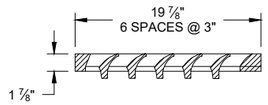
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE









TYPE "A"

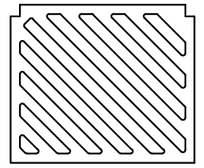
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

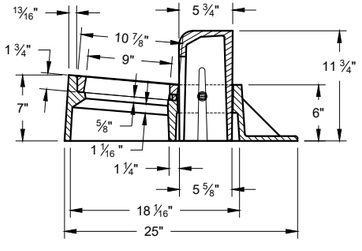
1" DIAGONAL BARS WITH 1 ½" OPENINGS

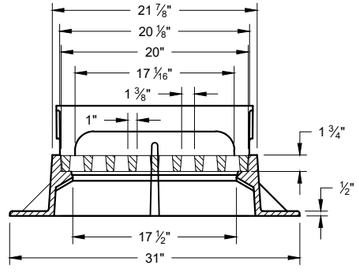


SPECIAL GRATE FOR TYPE "A" COVER

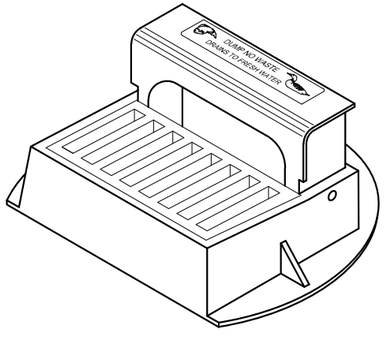
(MEASURES 19 ¾" X 17" X 1 ⅞")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





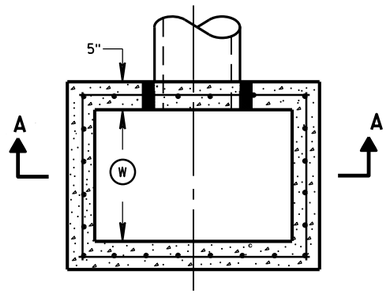
TYPE "Z"



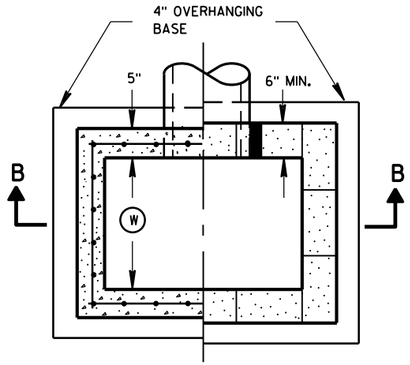
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

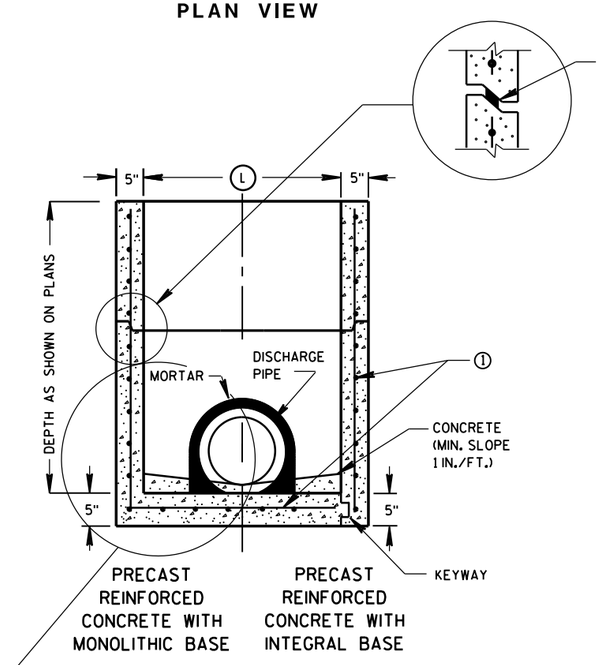
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — APPROVING ENGINEER
FHWA



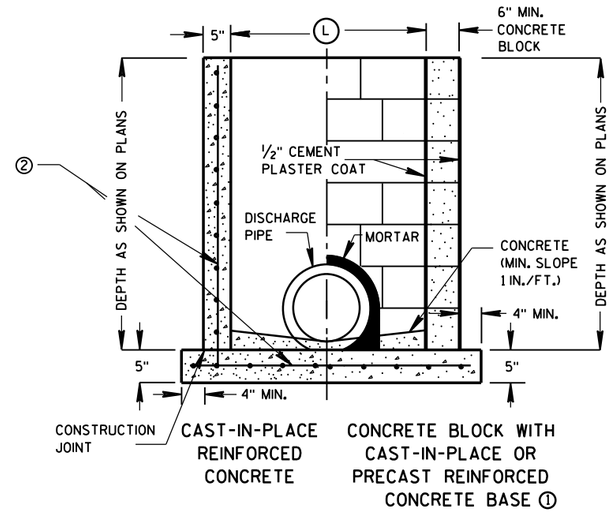
PLAN VIEW



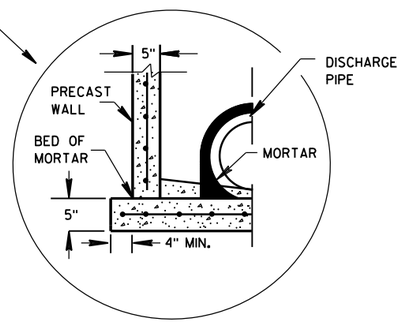
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

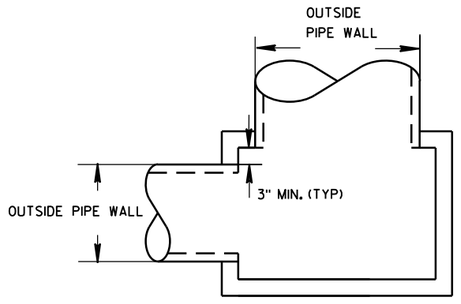
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

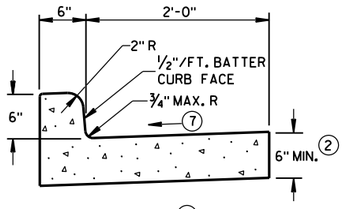
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

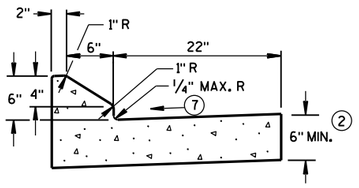
APPROVED
Sept., 2016
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

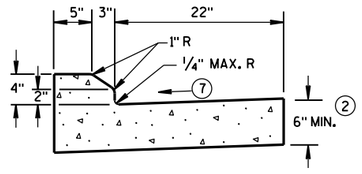
SDD 8d1-a Concrete Curb, Concrete Curb & Gutter



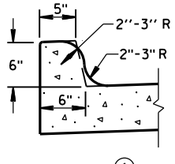
TYPES A (1) & D



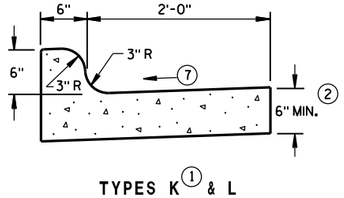
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

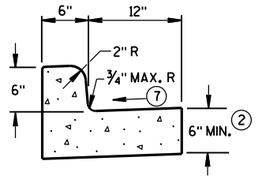


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



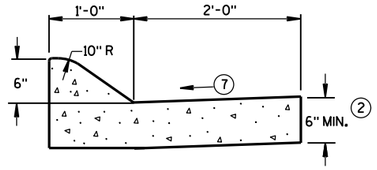
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

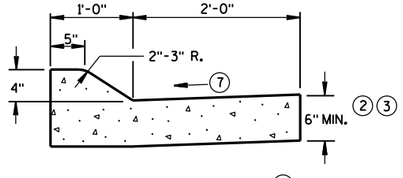


TYPES A (1) & D

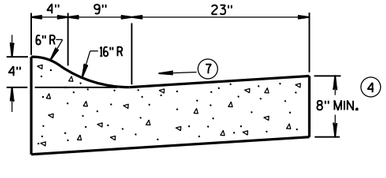
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

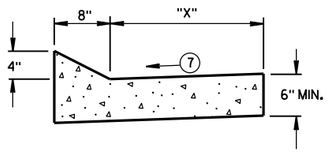


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

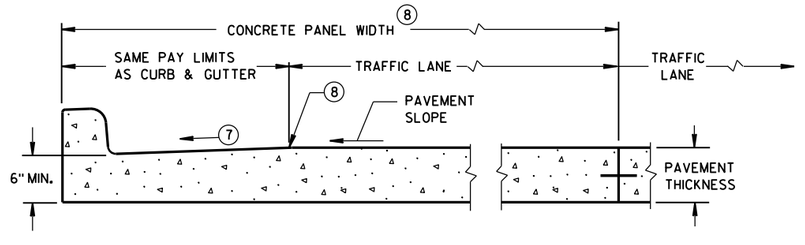
CONCRETE CURB & GUTTER 36"



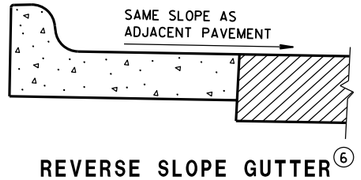
TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

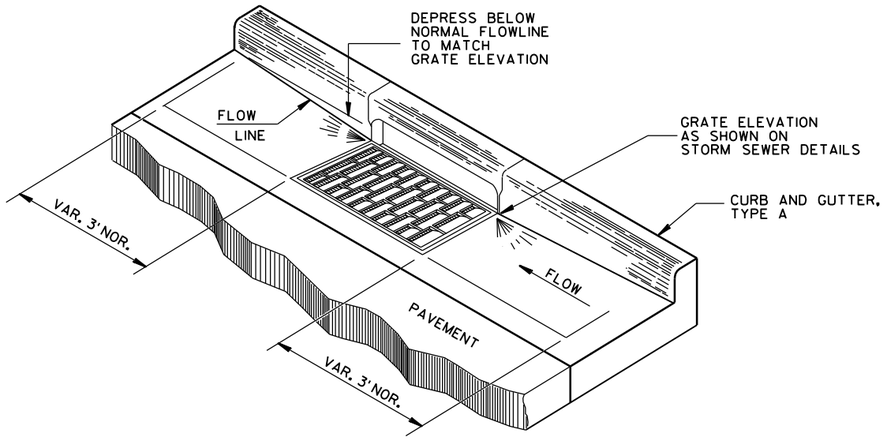
6

S.D.D. 8 D 1-20a

6

S.D.D. 8 D 1-20a

SDD 8d1-b Concrete Curb Ties and Curb & Gutter Applications



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

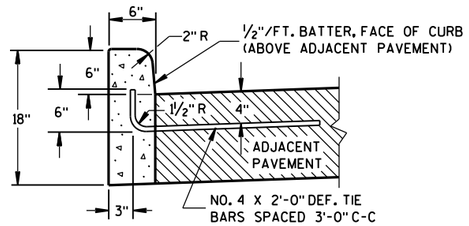
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

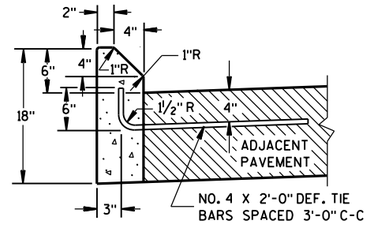
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

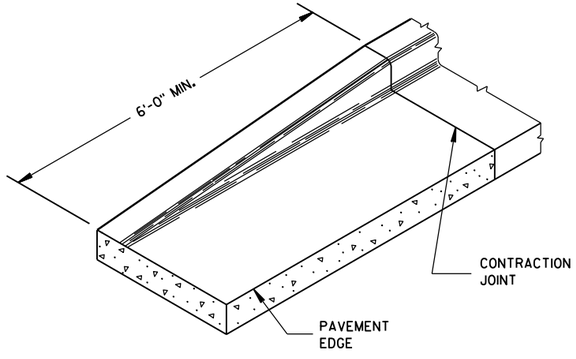


TYPES A (1) & D

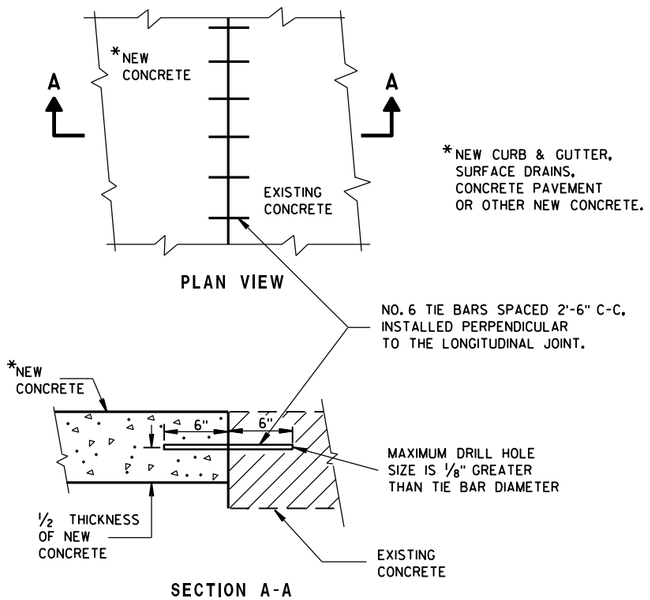


TYPES G (1) & J

CONCRETE CURB



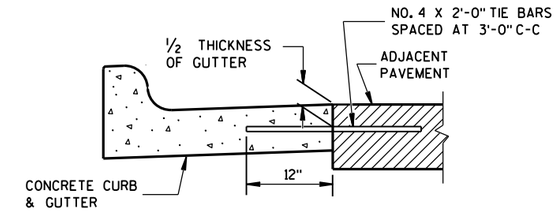
END SECTION CURB & GUTTER



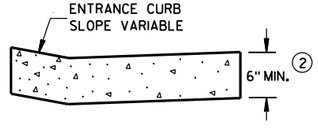
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

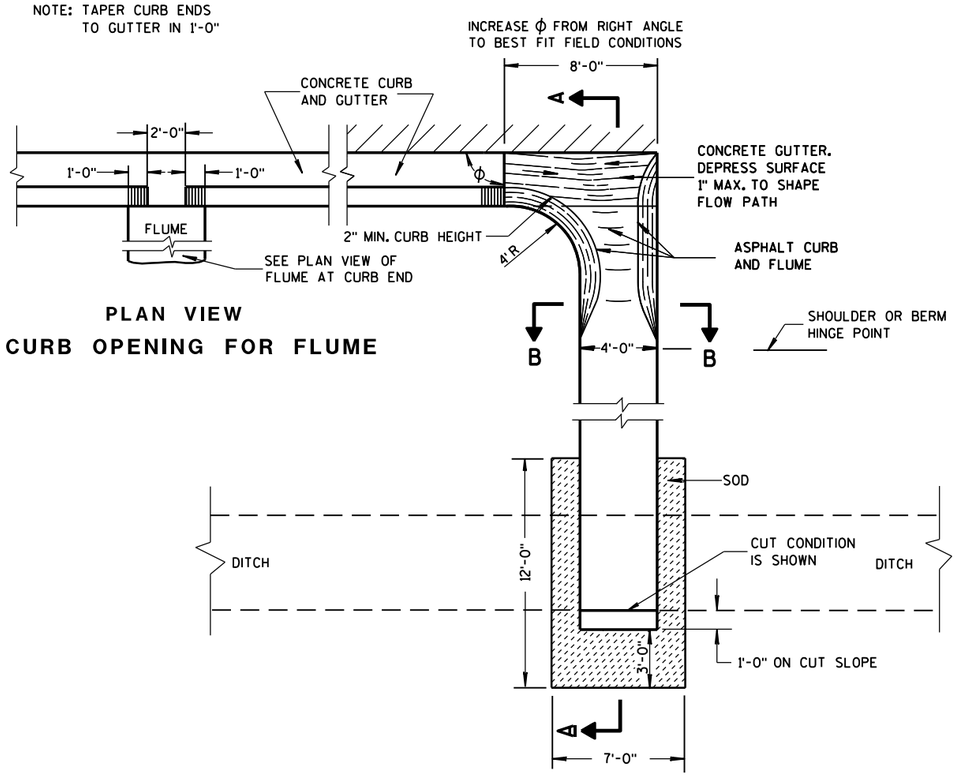
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6

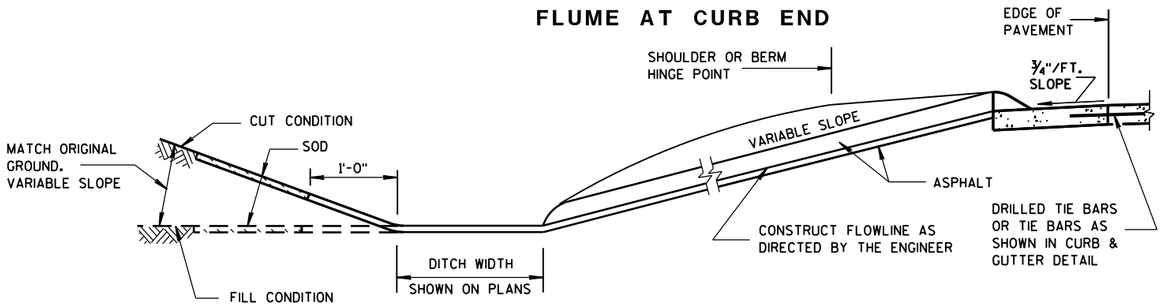
S.D.D. 8 D 1-20b

ASPHALTIC FLUME

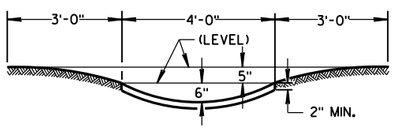


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

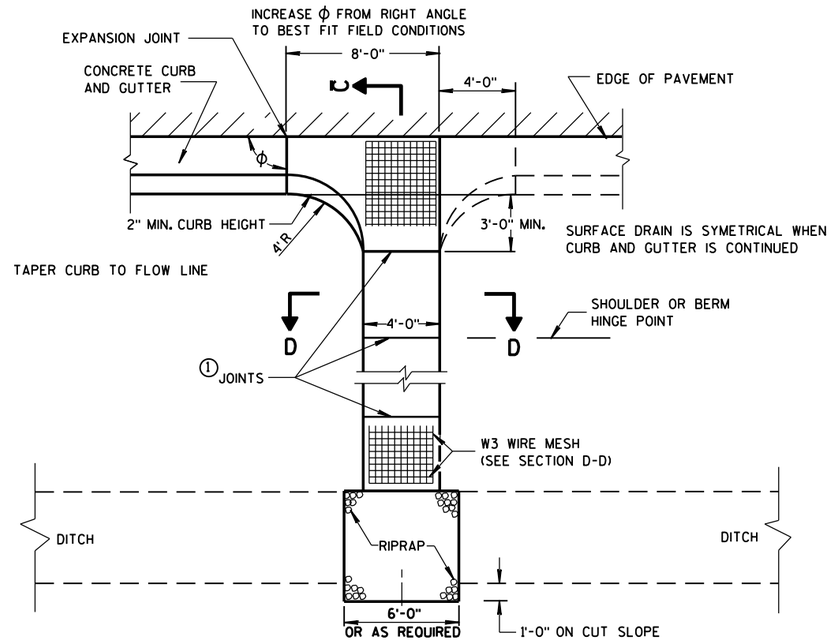
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

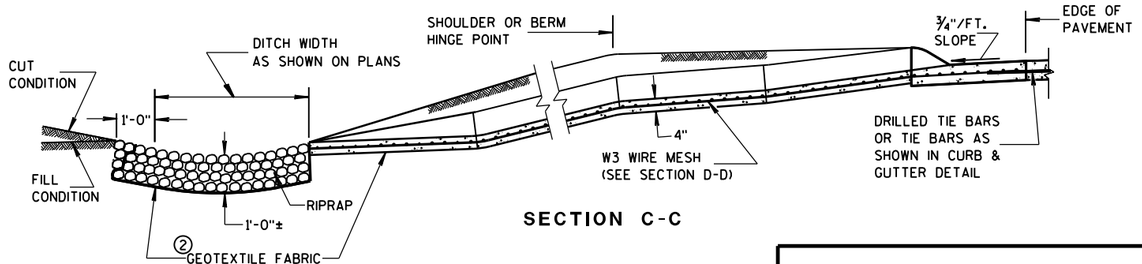
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

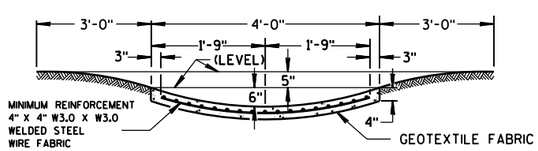
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

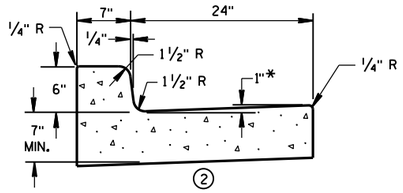
6

S.D.D. 8 D 4-5

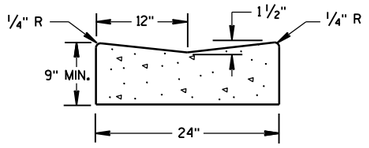
6

S.D.D. 8 D 4-5

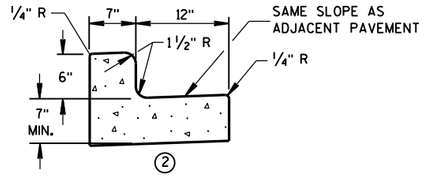
8D16: Concrete Gutter, Curb and Gutter and Pavement Ties



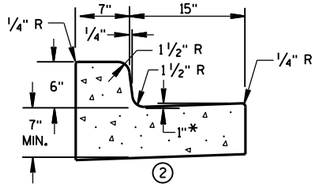
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

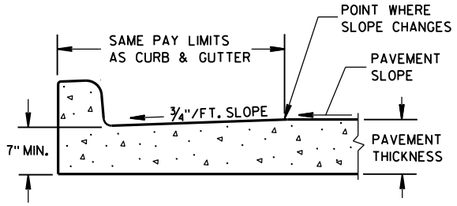


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

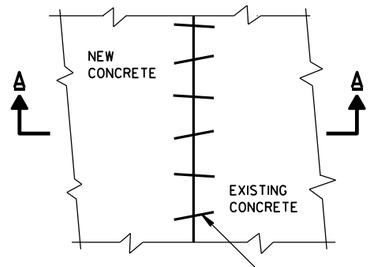
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

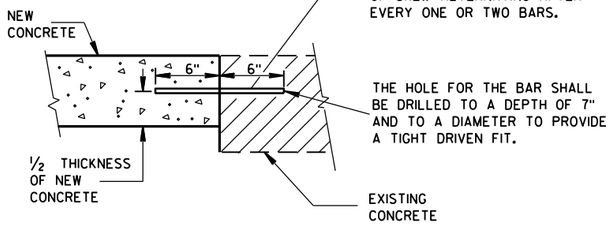
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



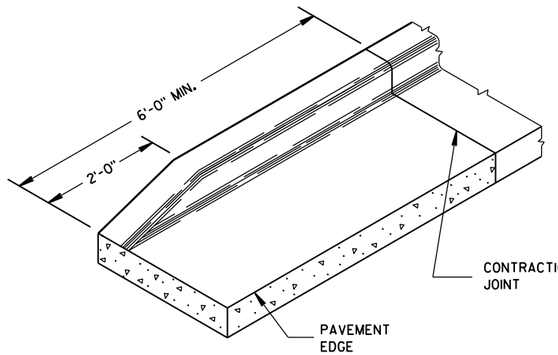
PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

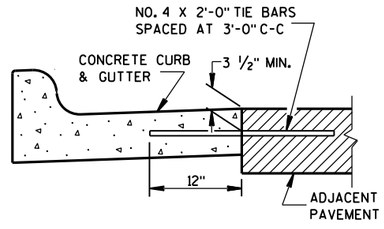


SECTION A-A

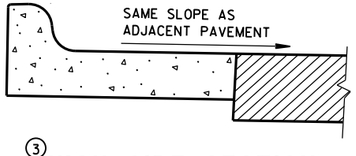
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010
DATE

/S/ Jerry Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

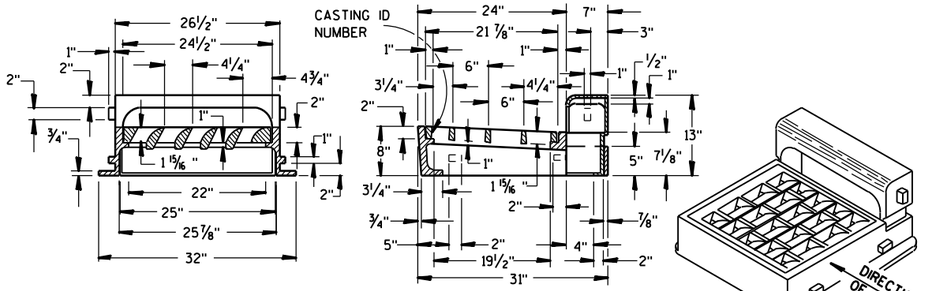
S.D.D. 8 D 16-10

6

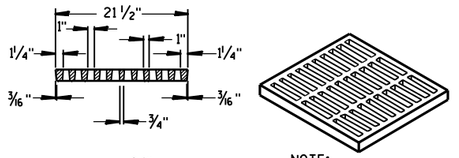
S.D.D. 8 D 16-10

SDD 8d17 Manholes, Manhole and Inlet Covers

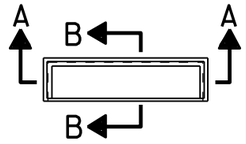
INLET COVERS

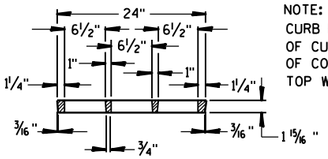


TYPE "R"
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)

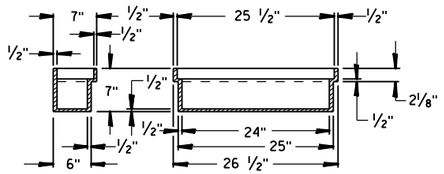


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.

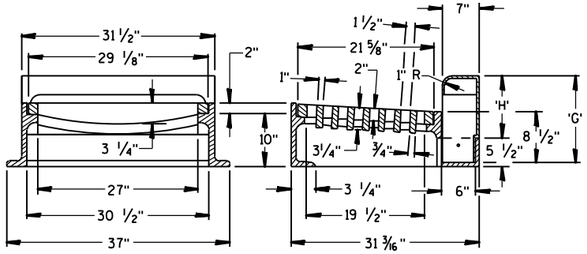


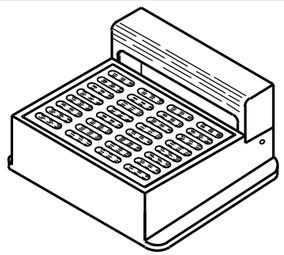
SECTION B-B SECTION A-A

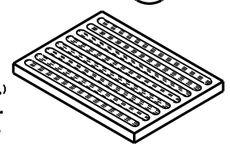
GRATE FOR TYPE "R" INLET COVER
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

SPECIAL CURB PLUG "P"
(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

'H' = 9" FOR 6" CURB 'G' = 13 ¾" FOR 6" CURB
'H' = 11" FOR 8" CURB 'G' = 15 ¾" FOR 8" CURB



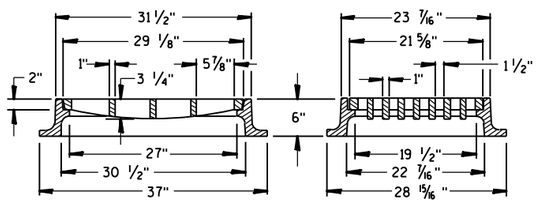




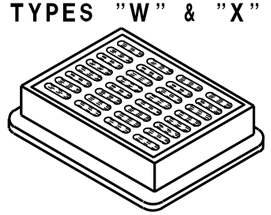
TYPE "W"

(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.

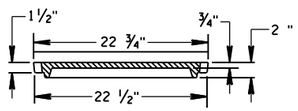
ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"



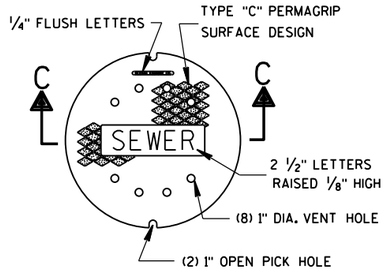
TYPE "X"
(APPROX. WEIGHT - 470 LBS.)

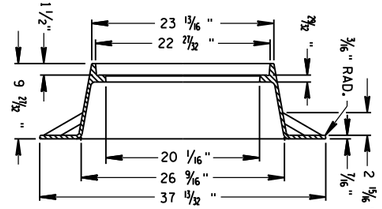


MANHOLE COVER



SECTION C-C





TYPE "Q"
(APPROX. WEIGHT - 290 LBS.)

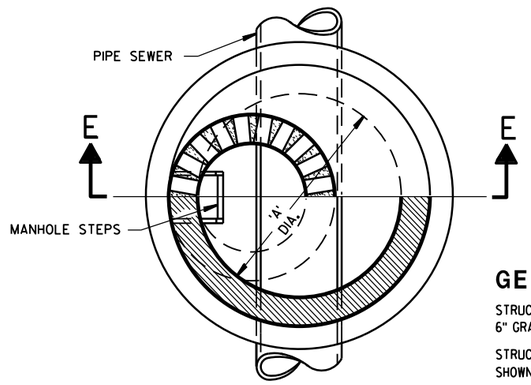
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

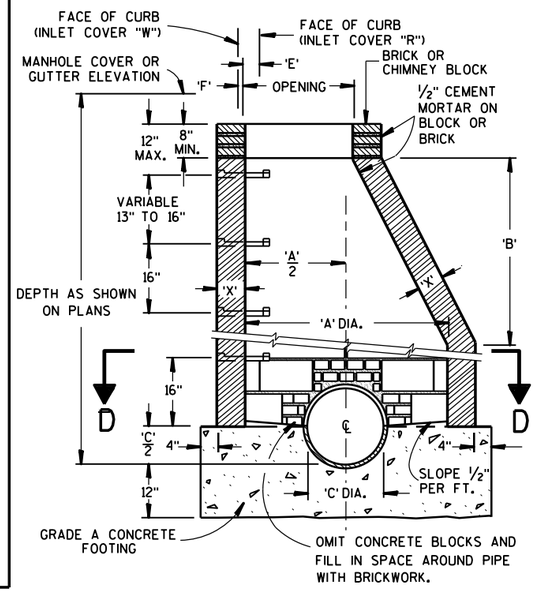
MANHOLE



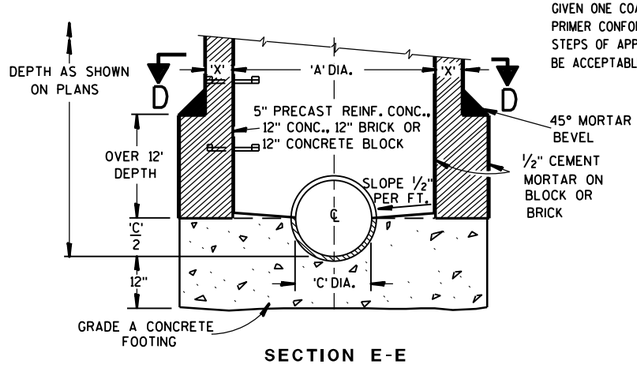
HALF SECTION D-D

TABLE OF OPENING DIMENSIONS

TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF ¾ INCH HIGH BY ¾ INCH WIDE HAVING A MINIMUM THICKNESS OF ⅜ INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

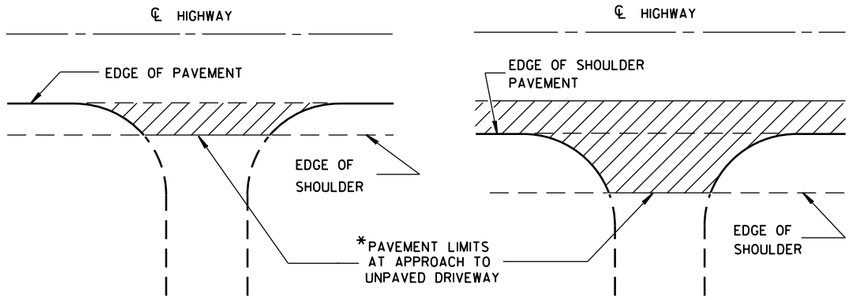
SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS DEVELOPMENT ENGINEER
FHWA

8D21: Driveways without Curb & Gutter

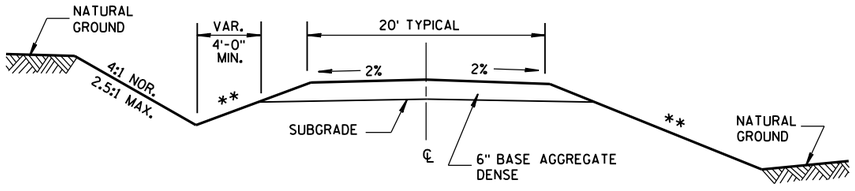


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

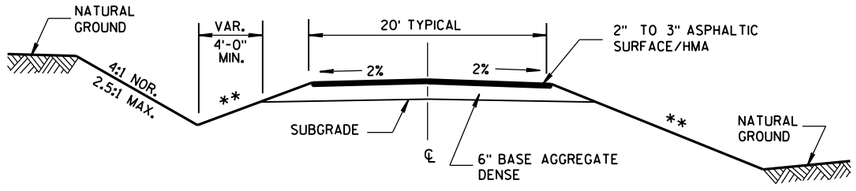


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

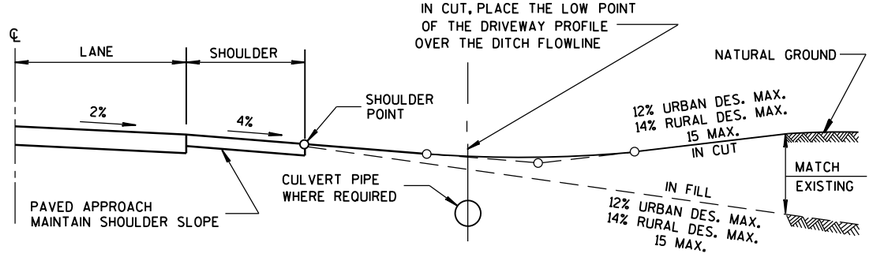
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥35 TO <60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

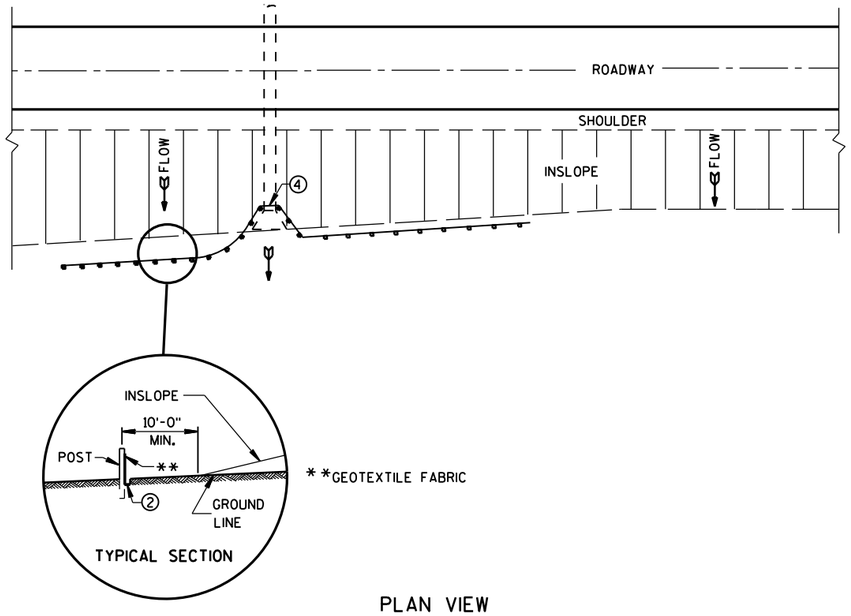
6

S.D.D. 8 D 21-1

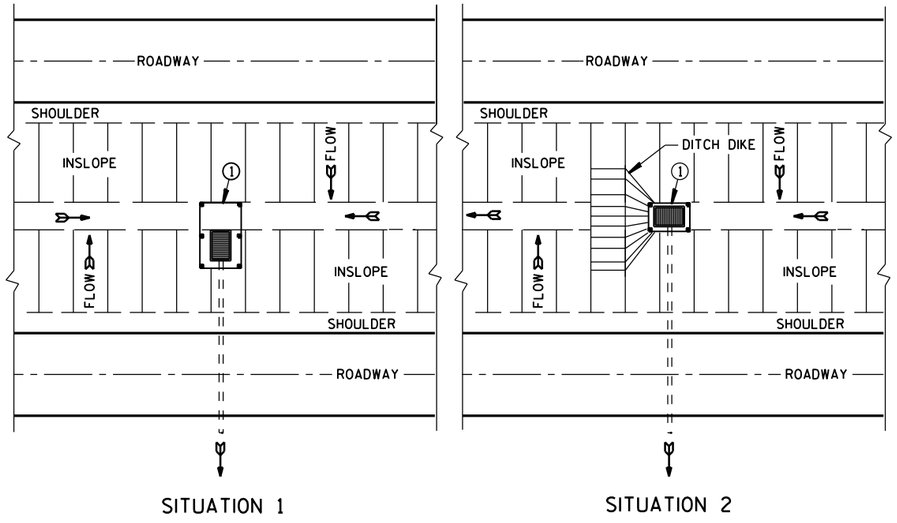
6

S.D.D. 8 D 21-1

SDD 8e9 Silt Fence



TYPICAL APPLICATION OF SILT FENCE



SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

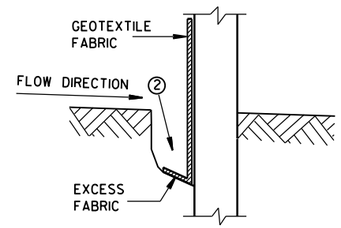
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

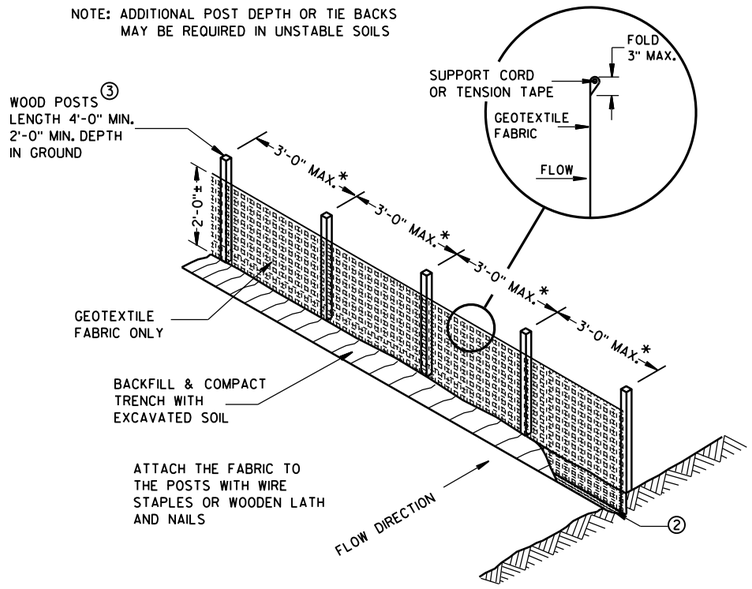
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

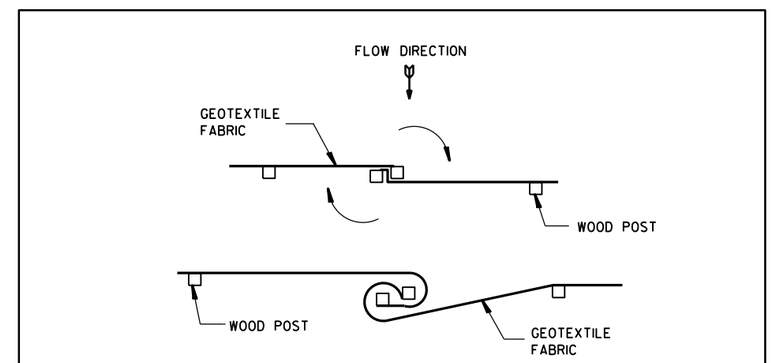
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



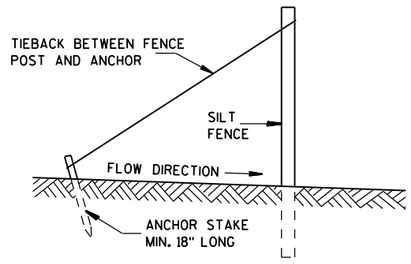
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

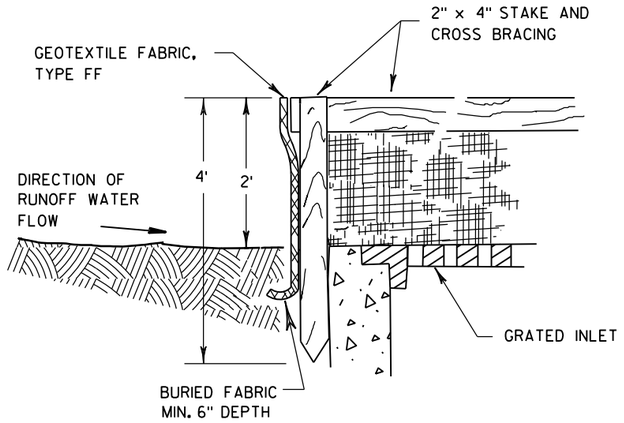
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

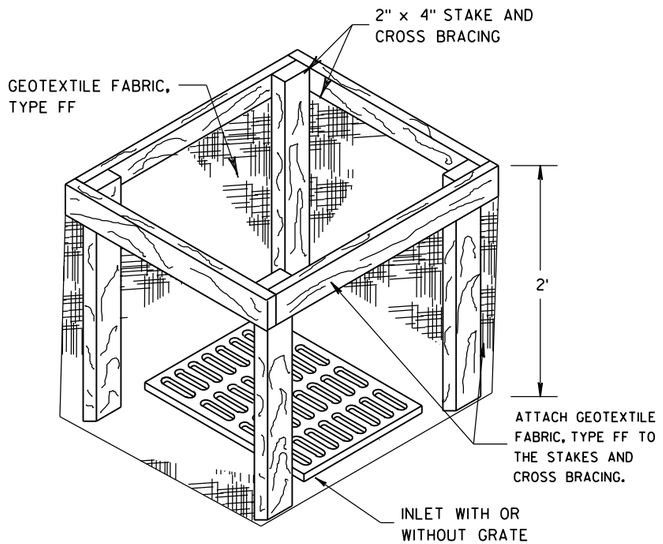
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

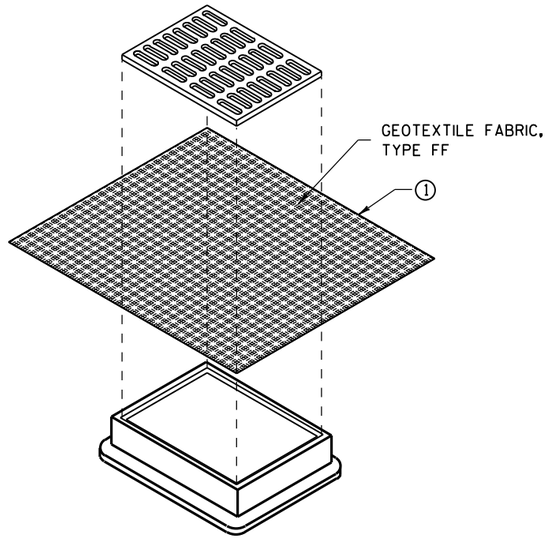
S.D.D. 8 E 9-6

SDD 8e10 Inlet Protection Type A, B, C and D



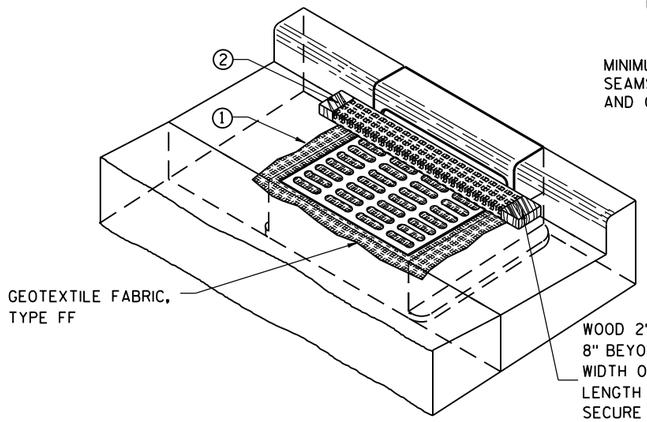


INLET PROTECTION, TYPE A

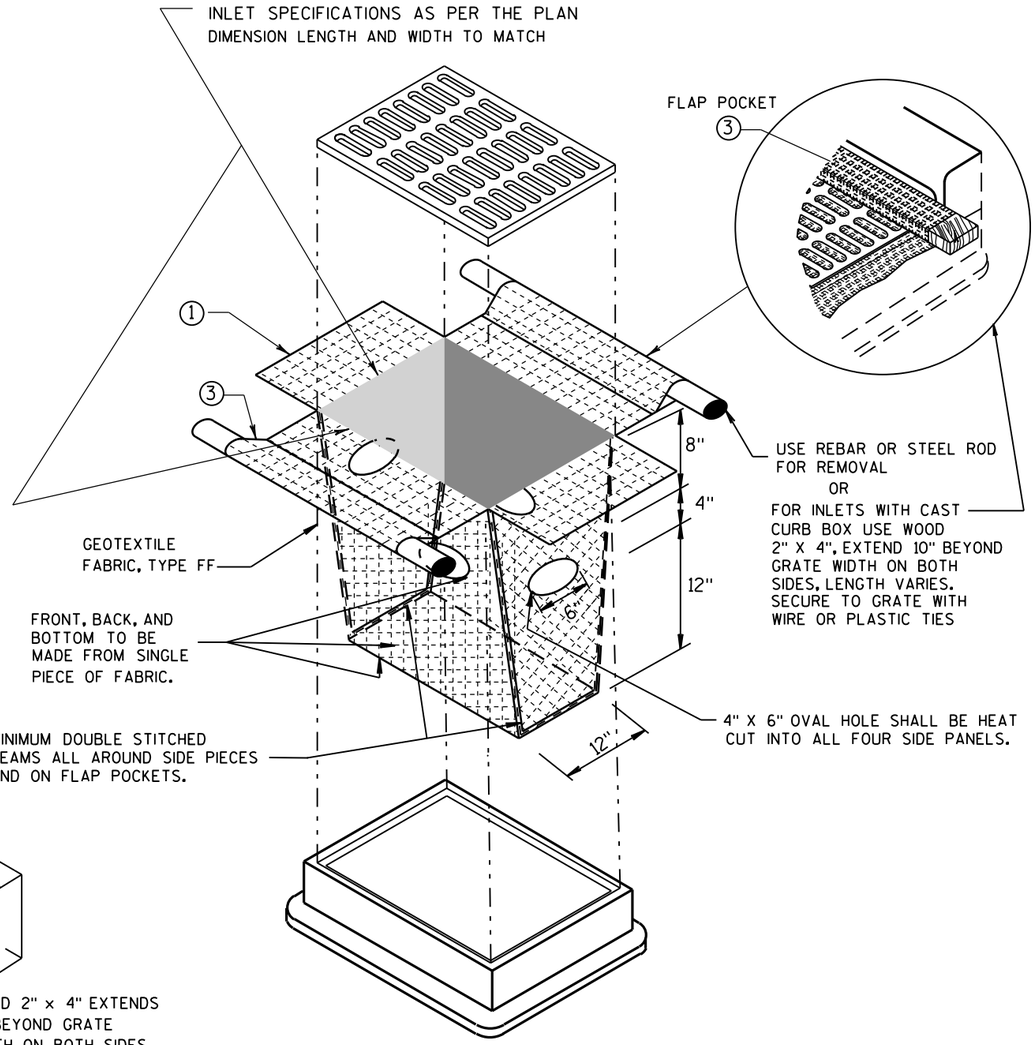


INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

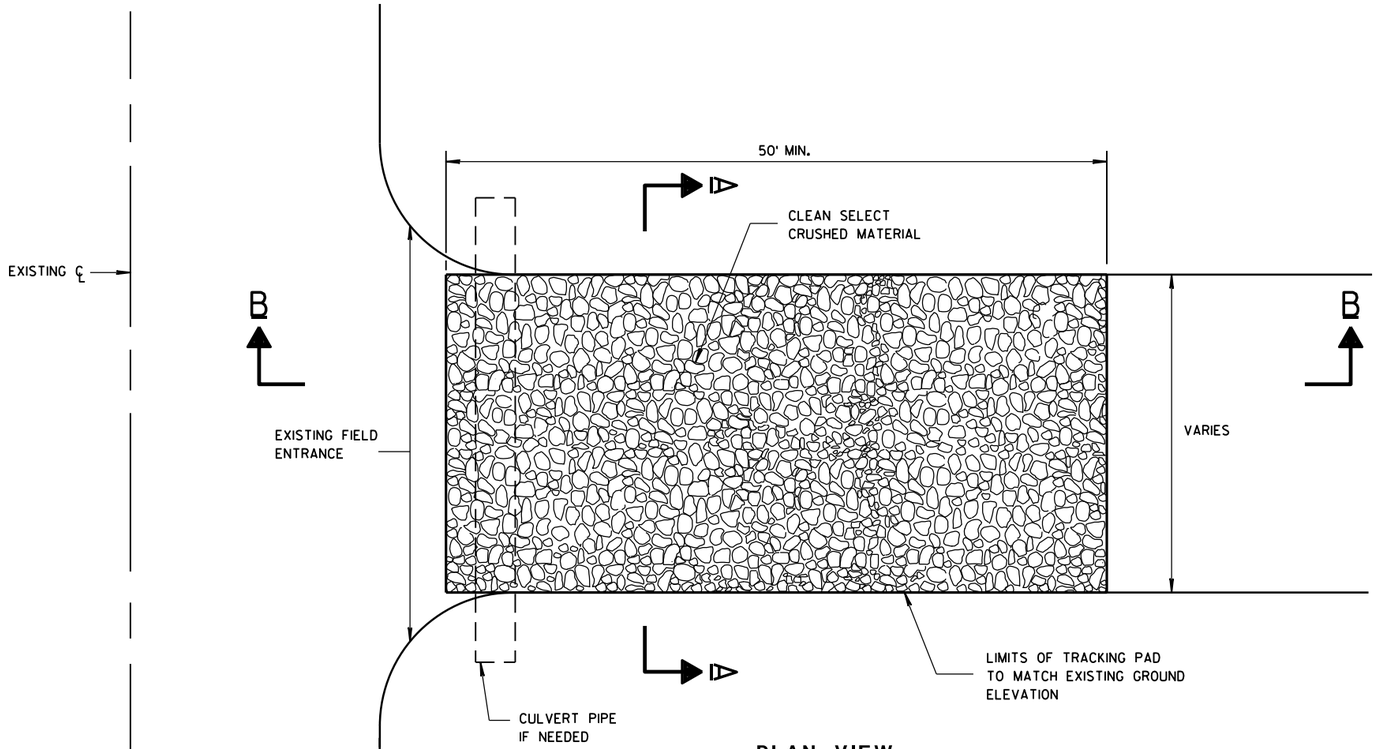
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D

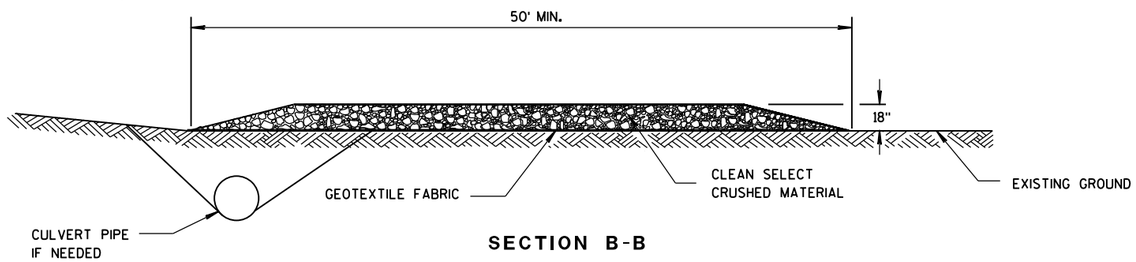
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

8E14: Tracking Pad



PLAN VIEW



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

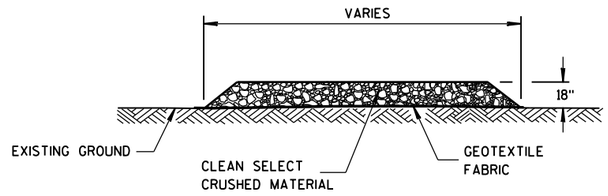
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-24-2011 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 14-1

6

S.D.D. 8 E 14-1

8F1: Apron Endwalls for Culvert Pipe

METAL APRON ENDWALLS

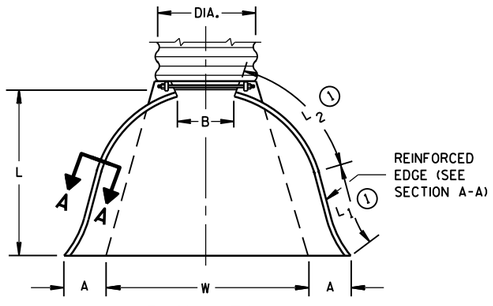
PIPE DIA. (IN.)	MIN. THICK. (inches)		DIMENSIONS (inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

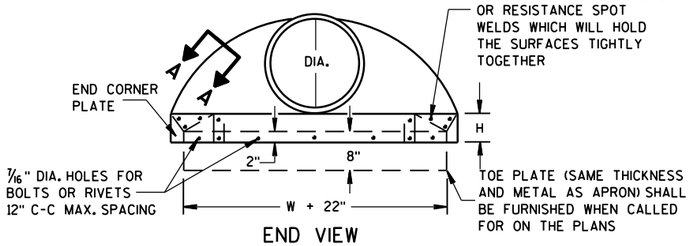
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

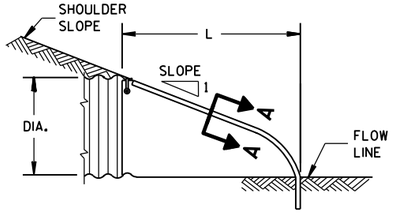
*MINIMUM
**MAXIMUM



PLAN VIEW

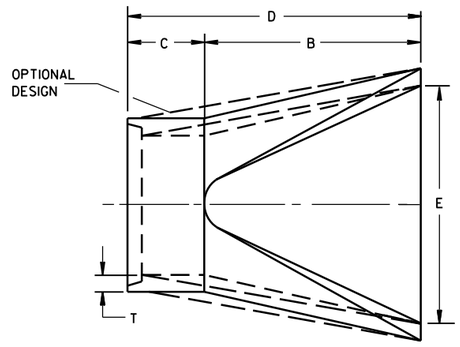


END VIEW

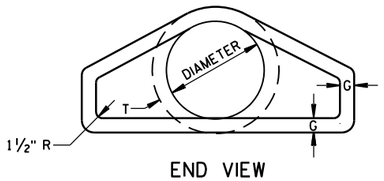


SIDE ELEVATION

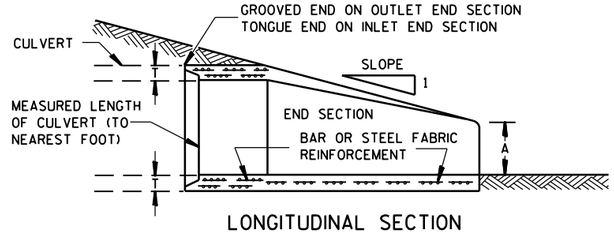
METAL ENDWALLS



PLAN

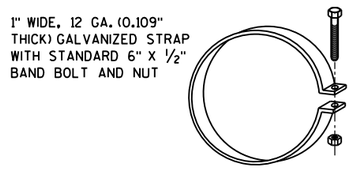


END VIEW



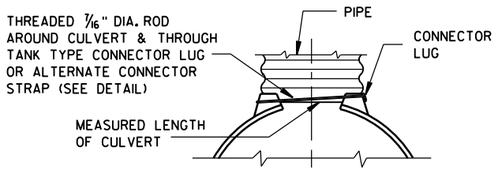
LONGITUDINAL SECTION

CONCRETE ENDWALLS

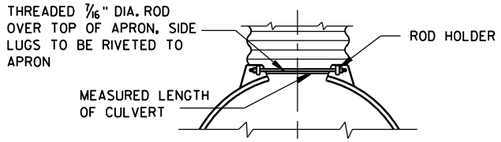


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

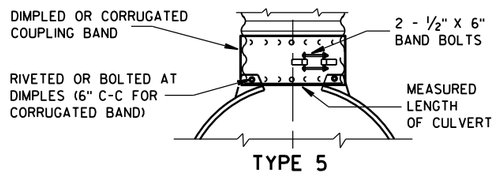


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

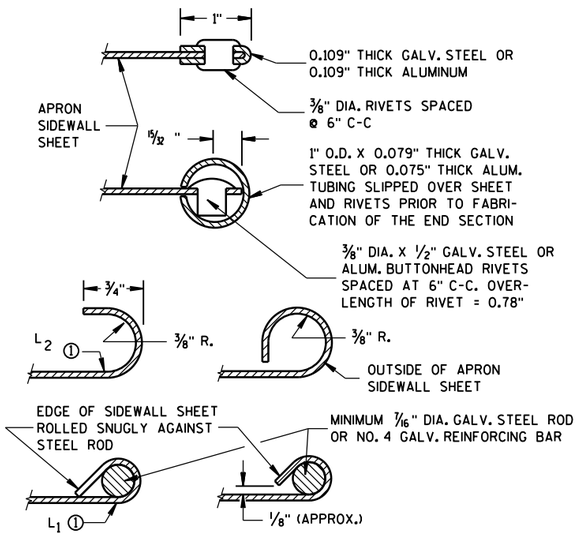
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-30-94
DATE

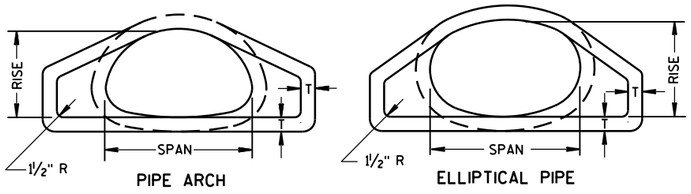
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

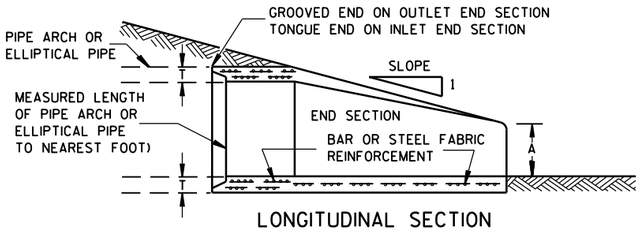
6

S.D.D. 8 F 1-11

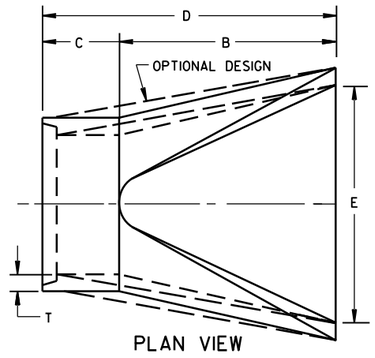
SDD 8f2 Apron Endwalls for Pipe Arch and Elliptical Pipe



END VIEW

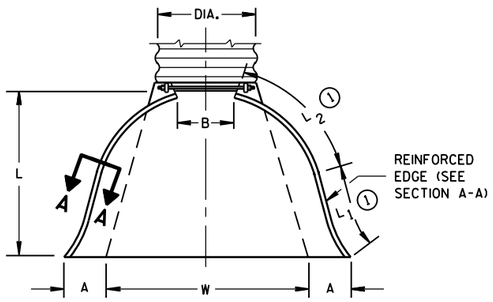


LONGITUDINAL SECTION

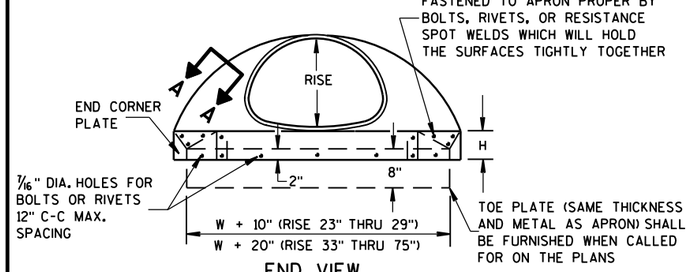


PLAN VIEW

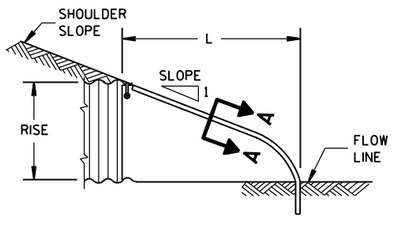
CONCRETE ENDWALLS



PLAN VIEW

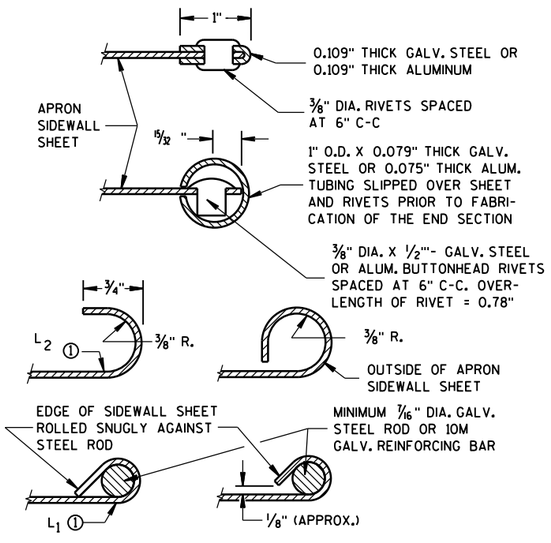


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

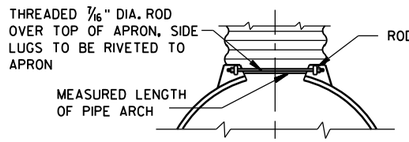
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

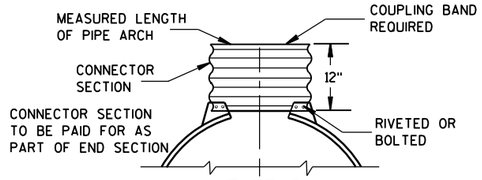
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



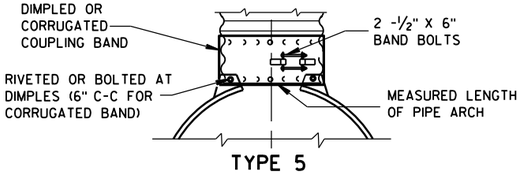
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-30-94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

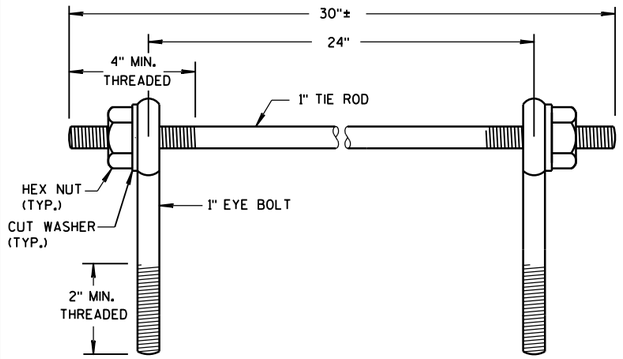
6

S.D.D. 8 F 2-1

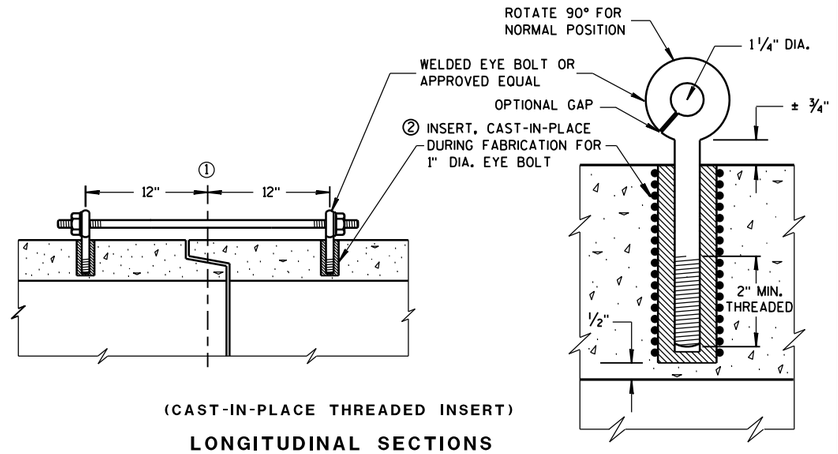
6

S.D.D. 8 F 2-1

8F4: Joint Ties for Concrete Pipe



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

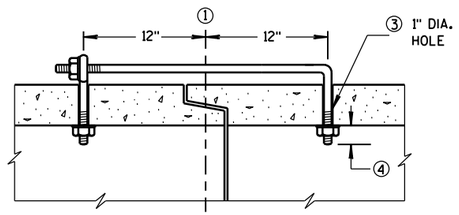
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

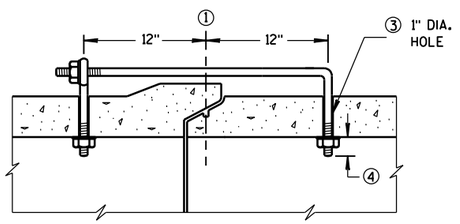
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

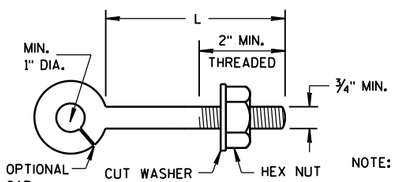


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

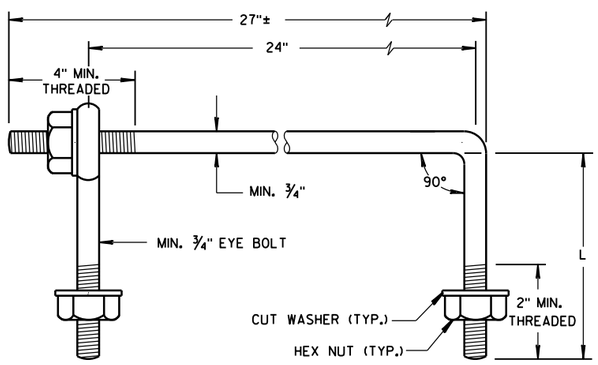
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

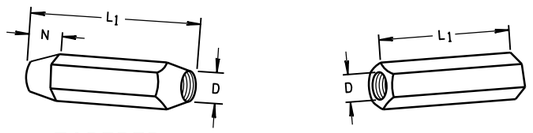
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

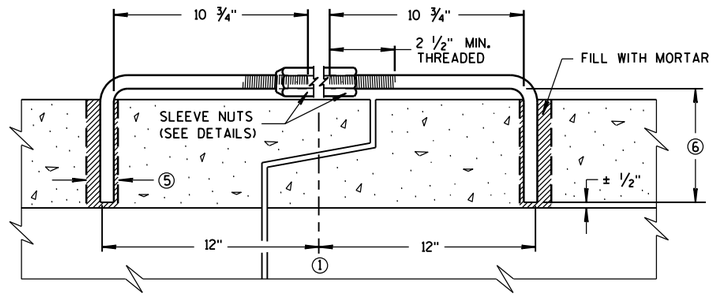
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

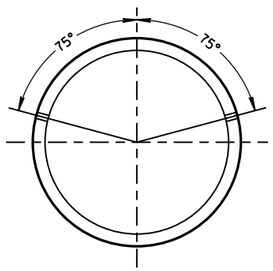
SLEEVE NUTS



LONGITUDINAL SECTION

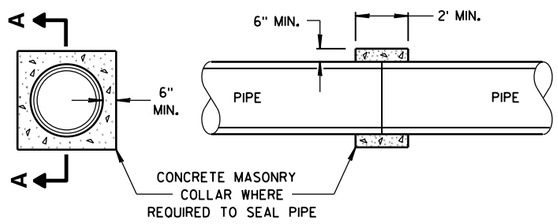
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

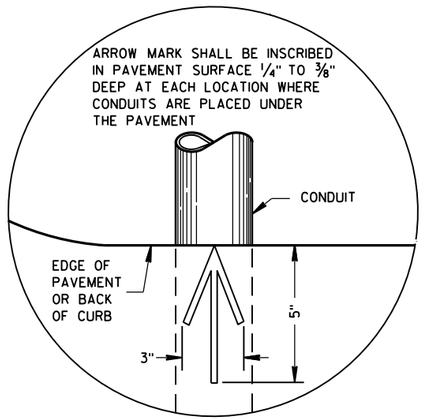
APPROVED
6-5-2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 4-7

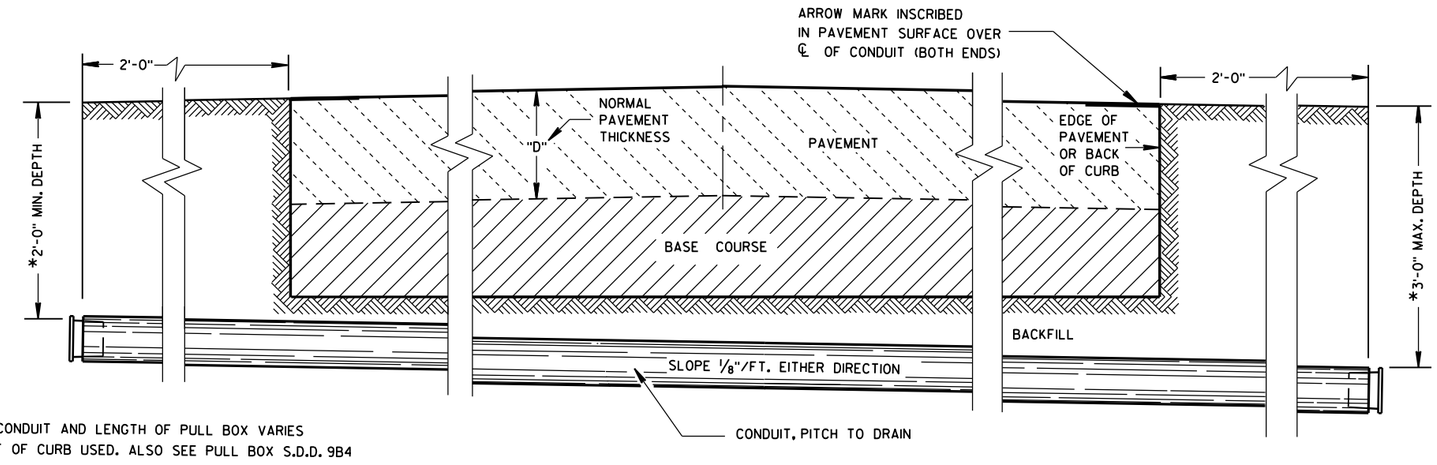
6

S.D.D. 8 F 4-7



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER
FHWA

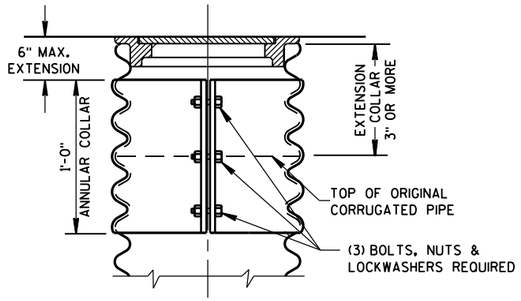
SDD 9b4 Pull Box

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

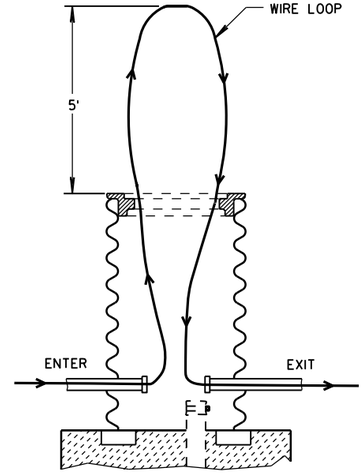
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

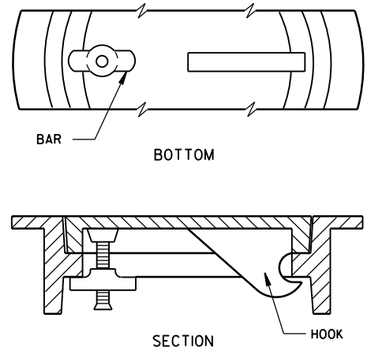
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

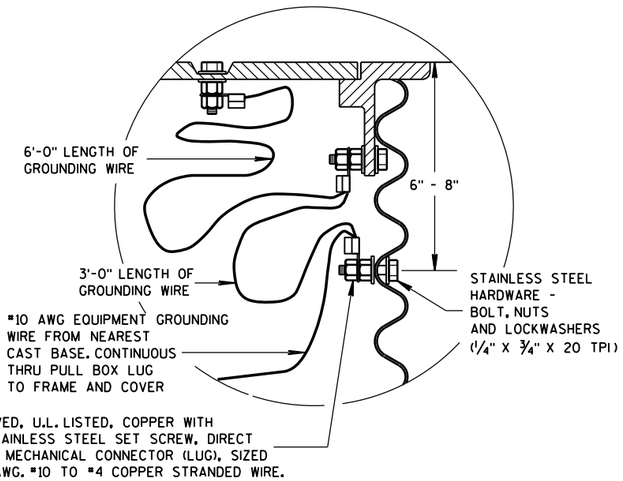


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

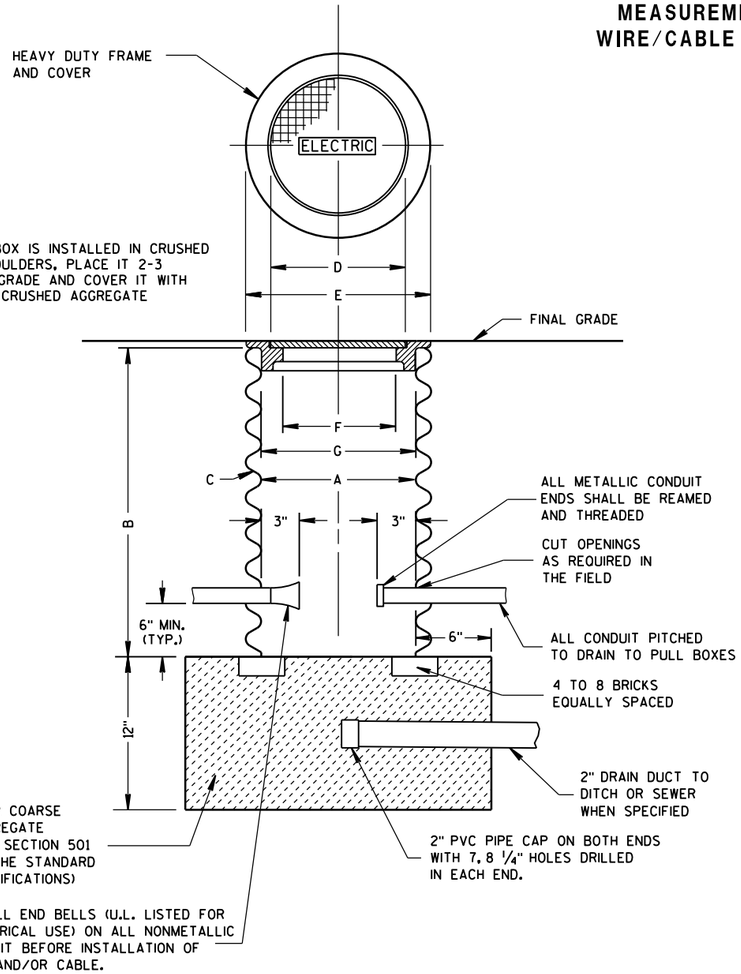


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

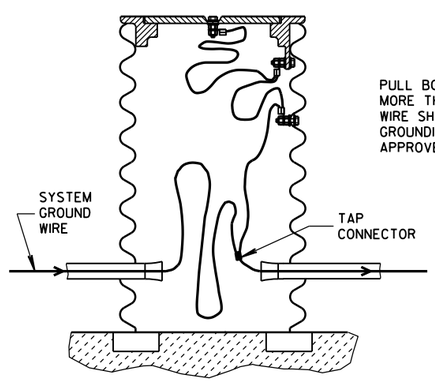
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER
FHWA

6

S.D.D. 9 B 4-11

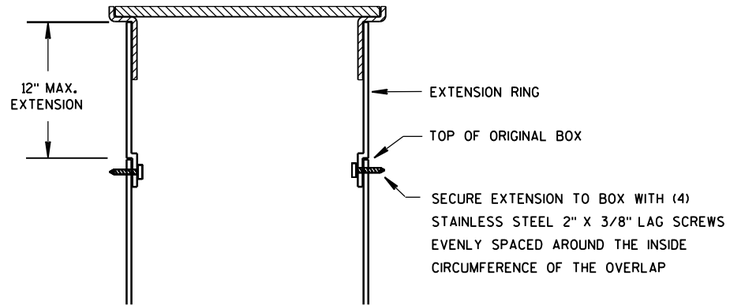
SDD 9b16 Pull Boxes Non-Conductive

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

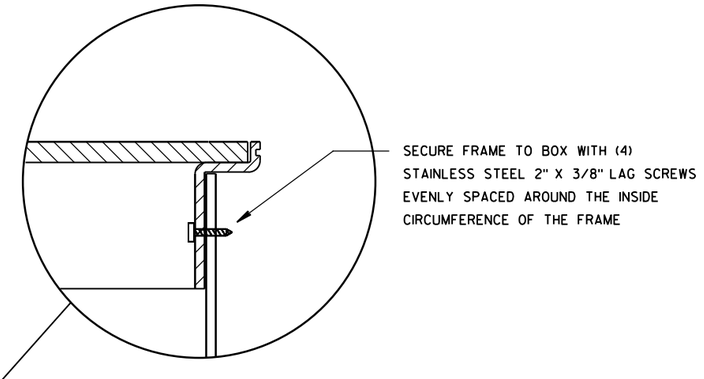
* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

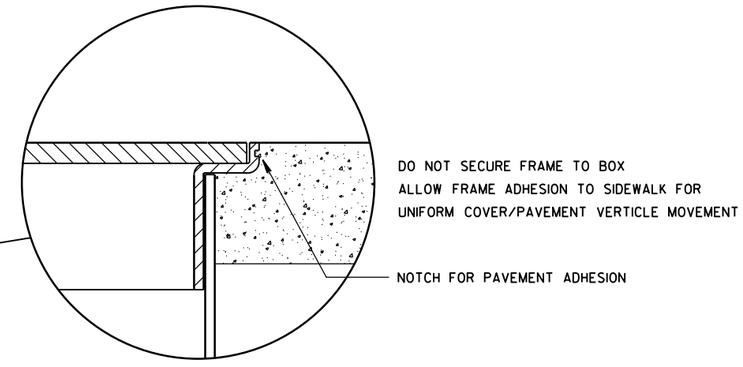


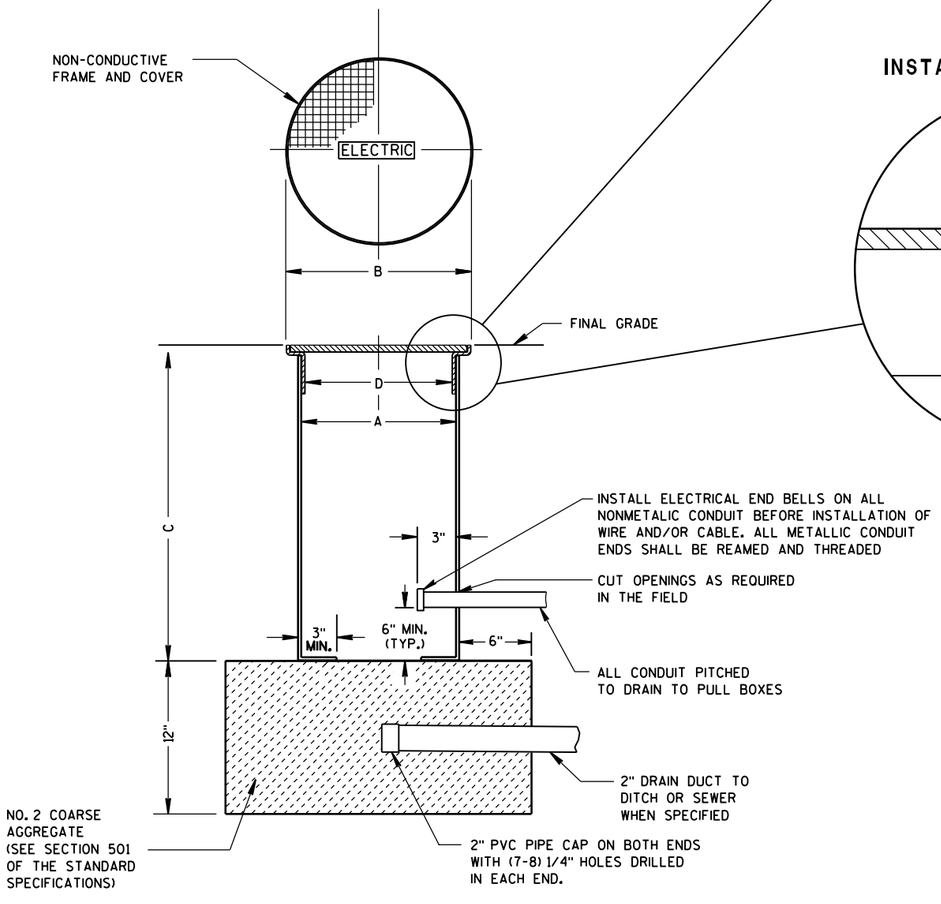
BOX EXTENSION

INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK





NON-CONDUCTIVE PULL BOX

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN 1/4".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.

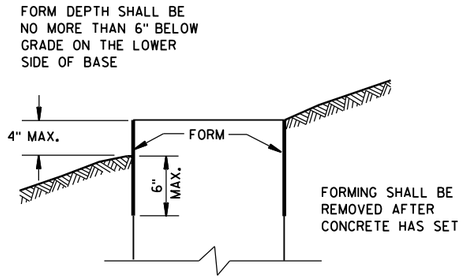
PULL BOX NON-CONDUCTIVE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER
FHWA

6
S.D.D. 9 B 16-1

SDD 9c2 Concrete Bases Types 1, 2, 5 and 6



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

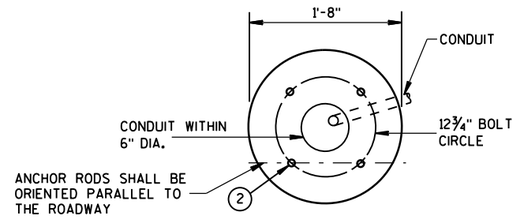
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

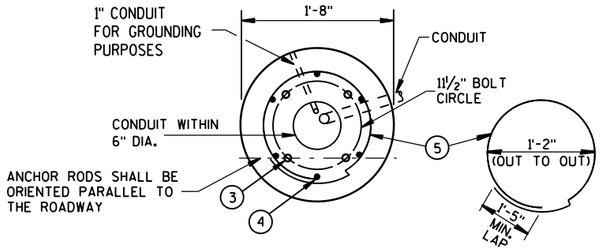
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

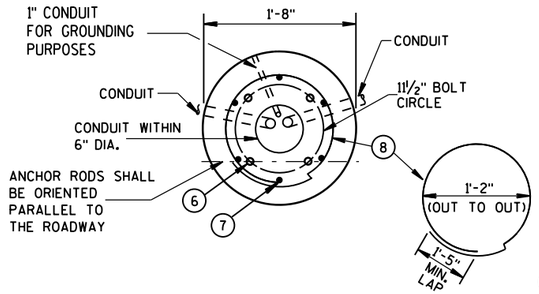
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



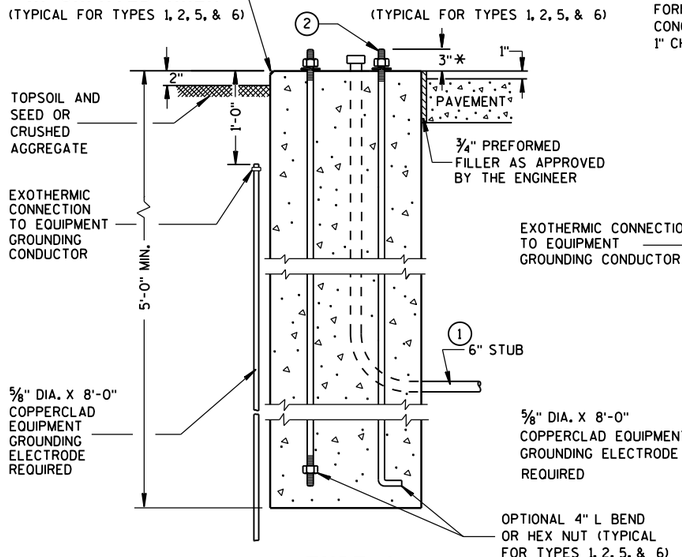




FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

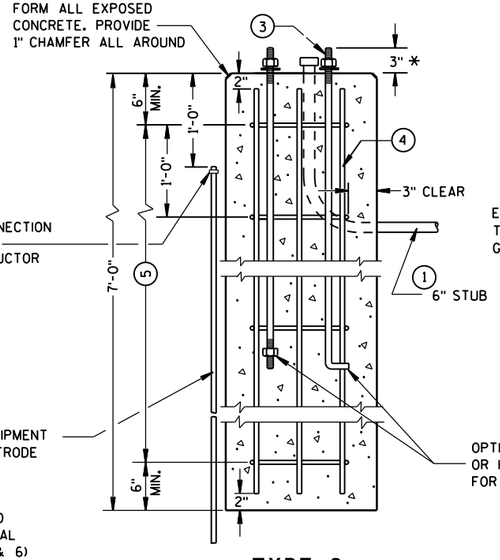
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



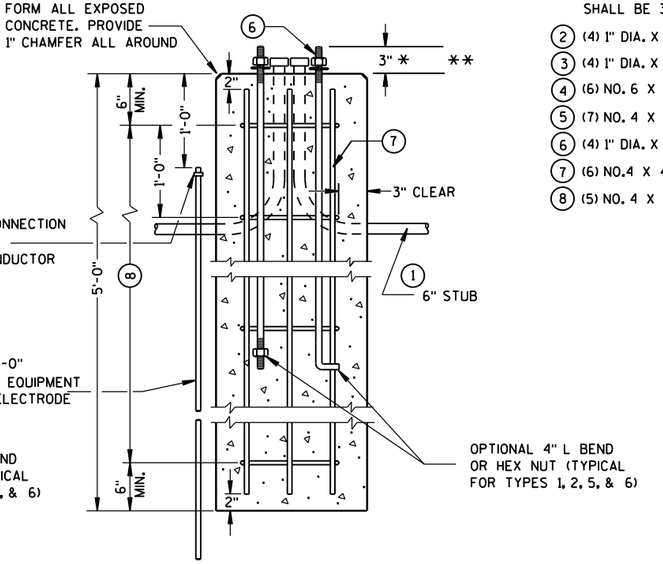
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER
FHWA

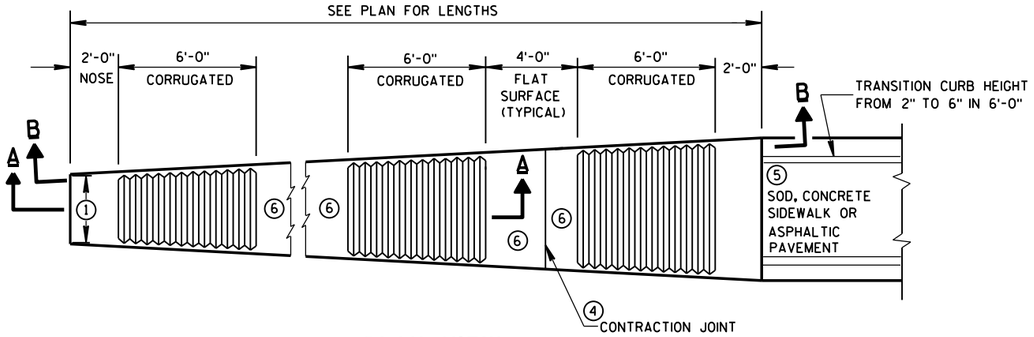
6

S.D.D. 9 C 2-7

6

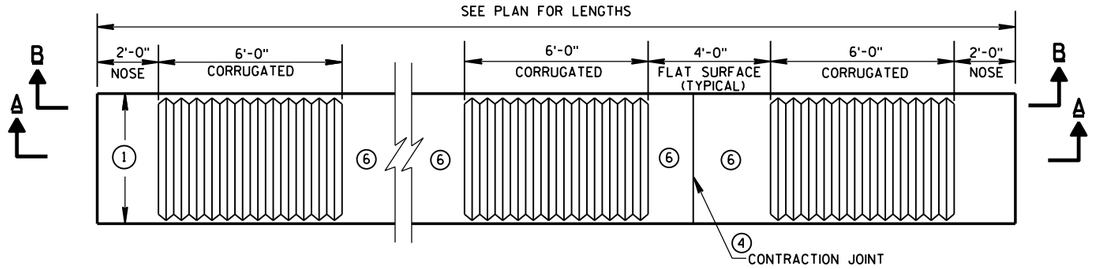
S.D.D. 9 C 2-7

SDD 11b1 Concrete Corrugated Median



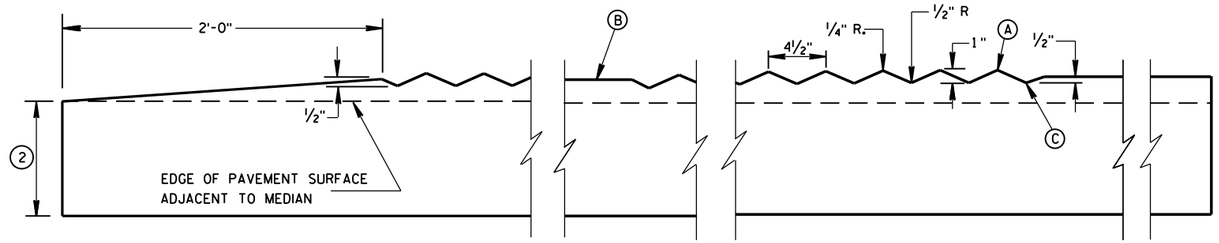
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN



SECTION A-A

LONGITUDINAL SECTION

GENERAL NOTES

(1) SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.

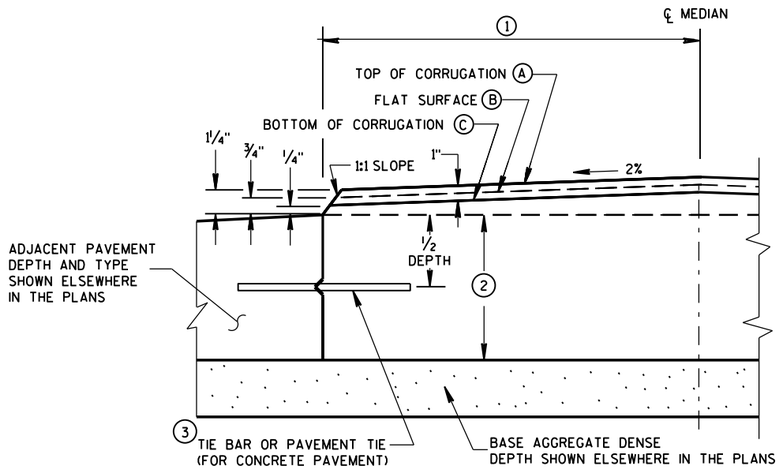
(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.

(3) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.
INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE, PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(4) CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE. TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.

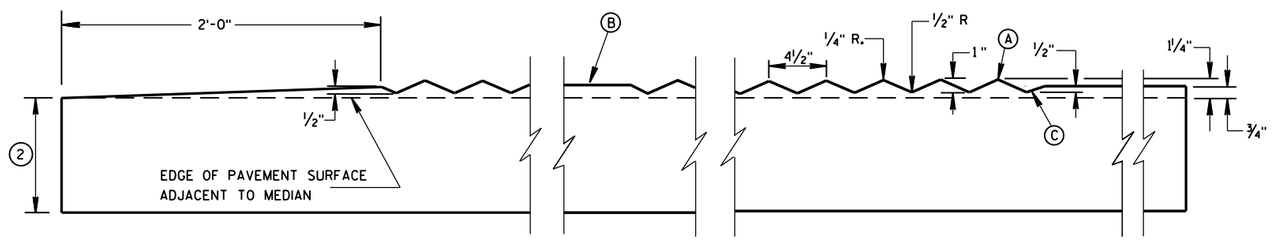
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(6) YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

(2) CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B

LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

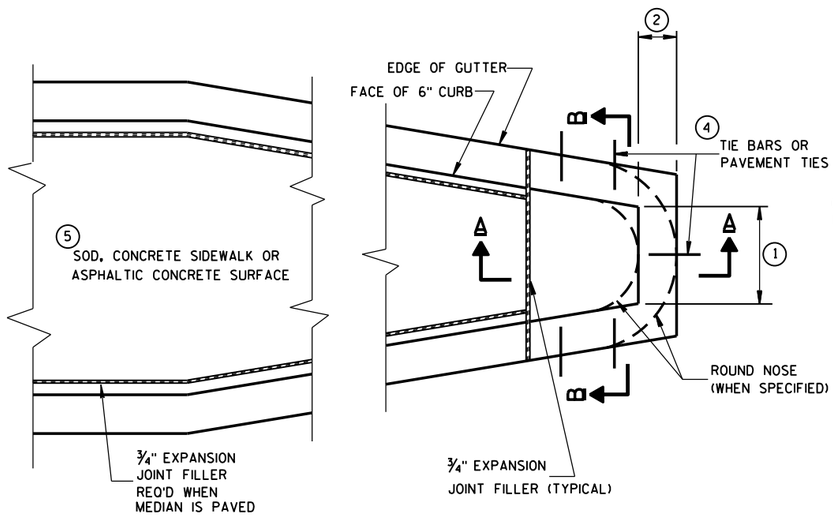
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

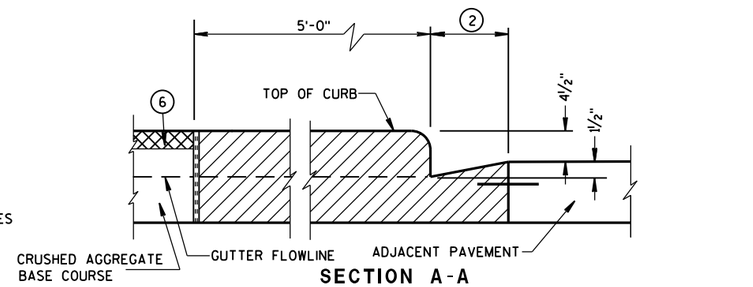
APPROVED
12/17/07
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

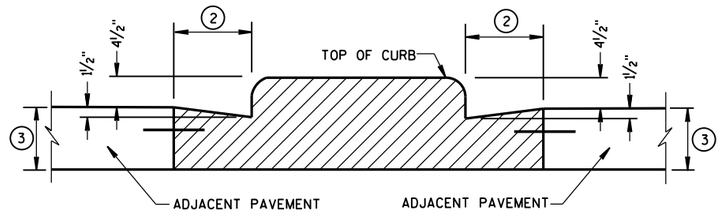
S.D.D. 11 B 1-5

SDD 11b2 Concrete Median Nose





SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

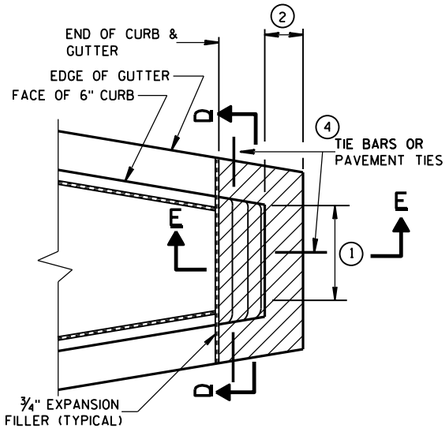
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

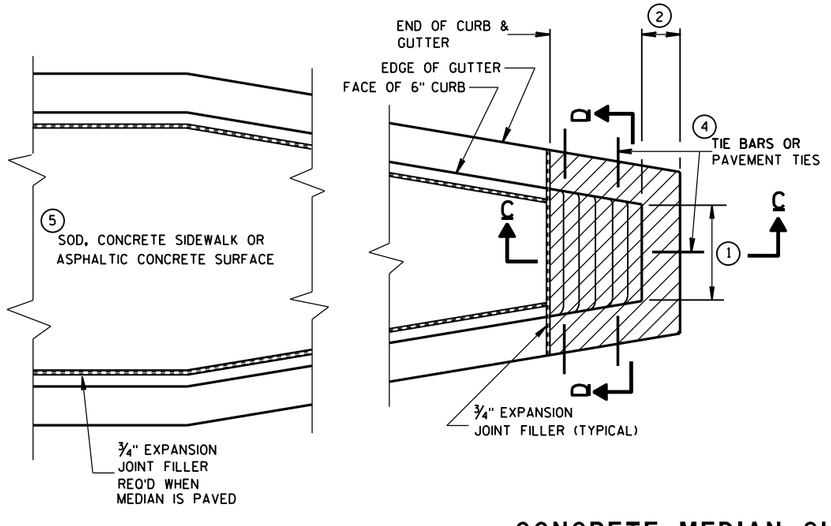
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

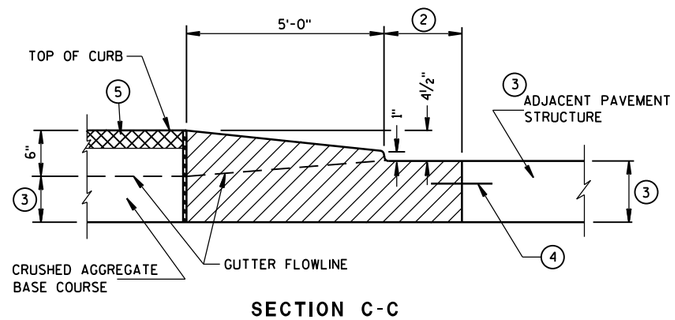
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

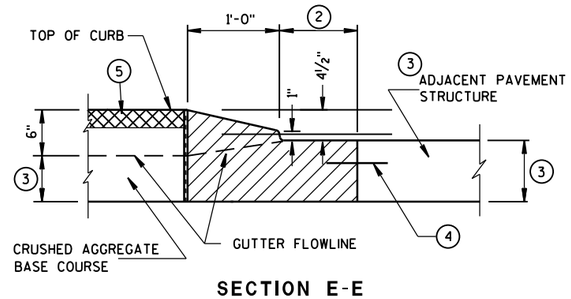




CONCRETE MEDIAN SLOPED NOSE TYPE 1

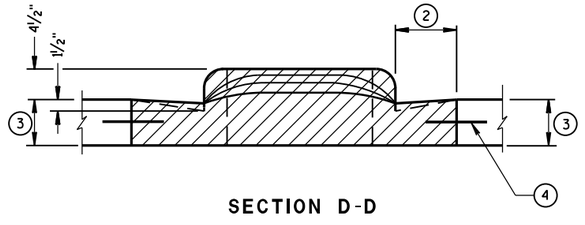


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6-8-2006 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

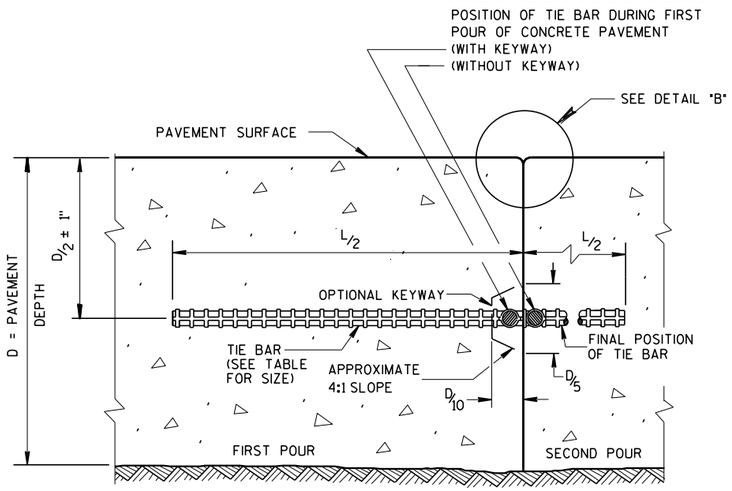
6

S.D.D. 11 B 2-2

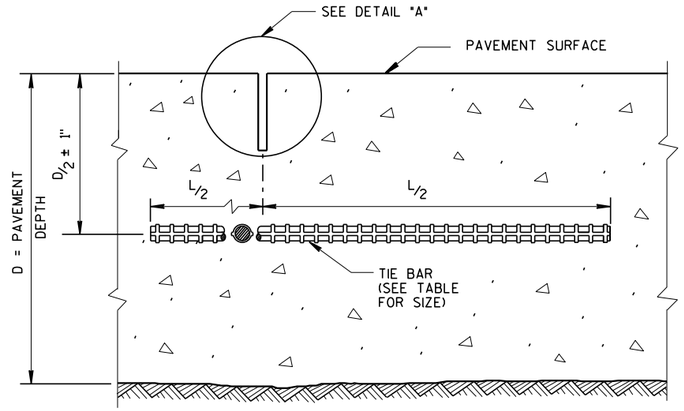
6

S.D.D. 11 B 2-2

13C1: Concrete Pavement Longitudinal Joints and Ties



CONSTRUCTION JOINT



SAWED JOINT

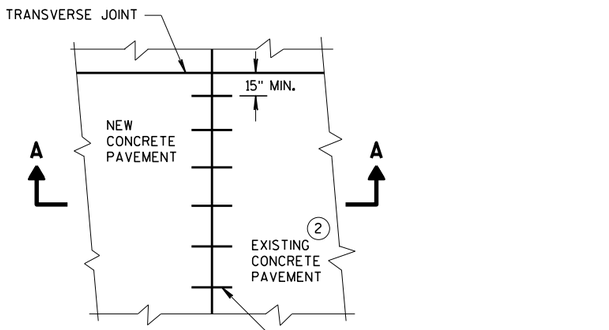
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

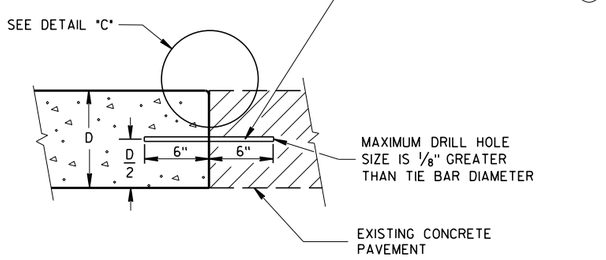
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

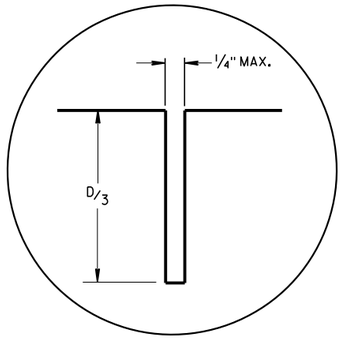


PLAN VIEW

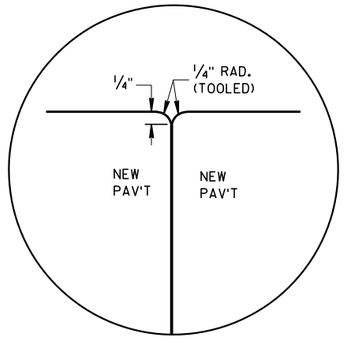


SECTION A-A

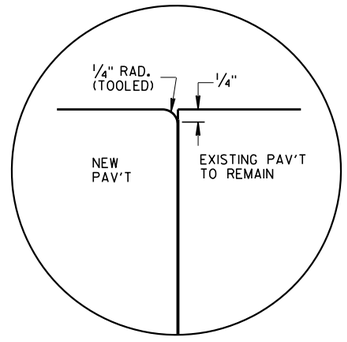
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



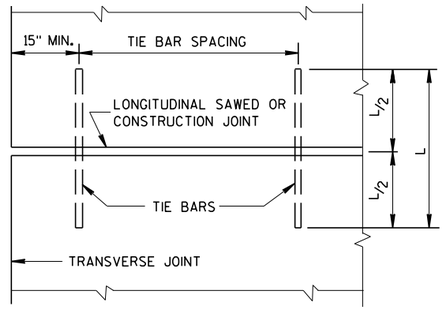
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERVISOR
FHWA

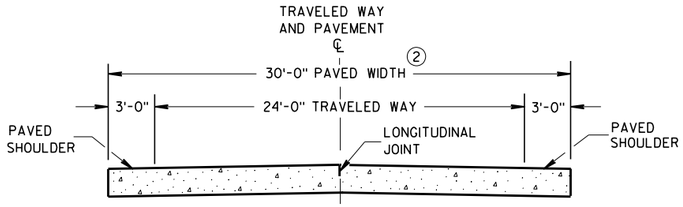
6

S.D.D. 13 C 1-19

6

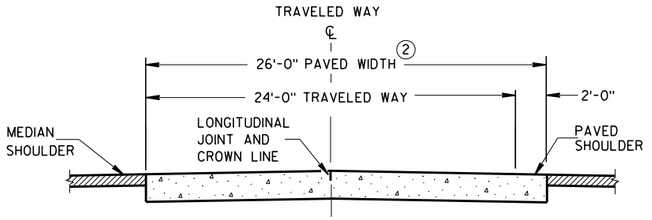
S.D.D. 13 C 1-19

SDD 13c11-a Rural Doweled Concrete Pavement

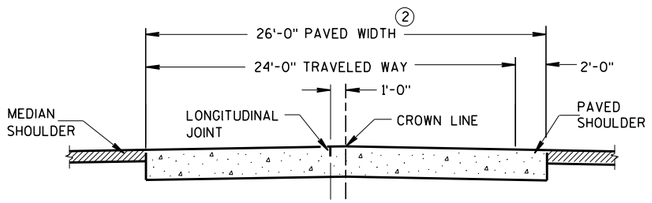


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B

①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

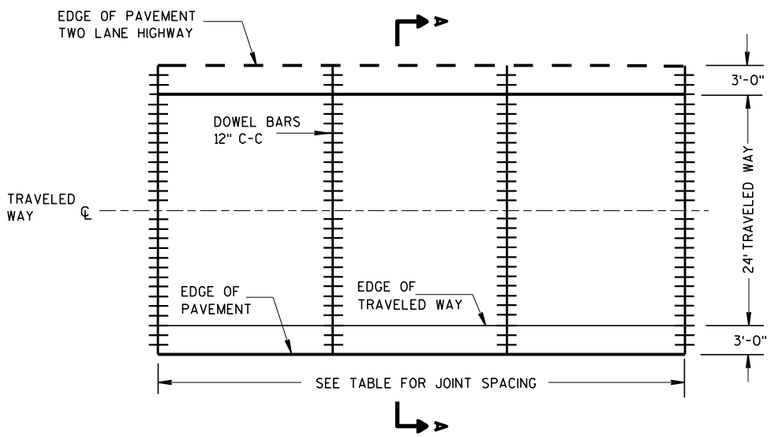
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

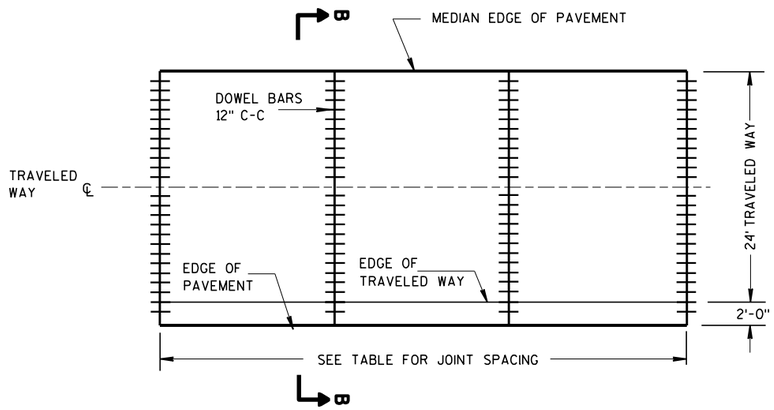
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

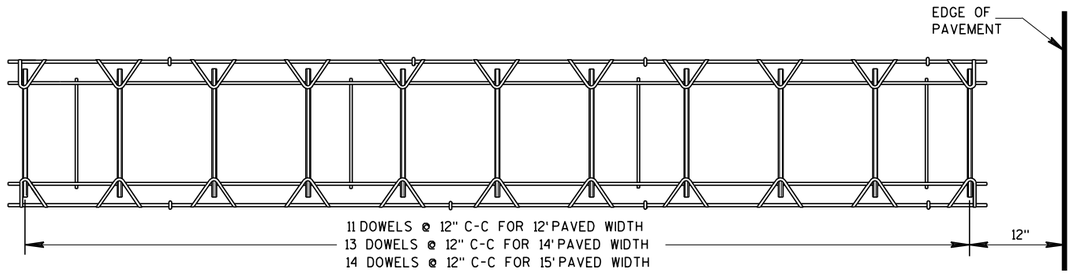
6

S.D.D. 13 C 11-12a

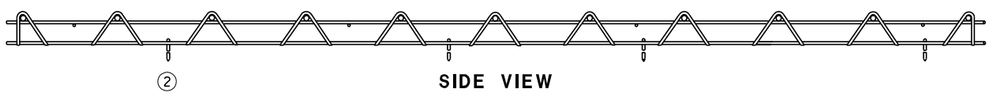
6

S.D.D. 13 C 11-12a

SDD 13c11-b Rural Doweled Concrete Pavement



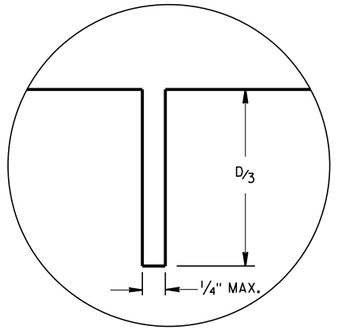
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

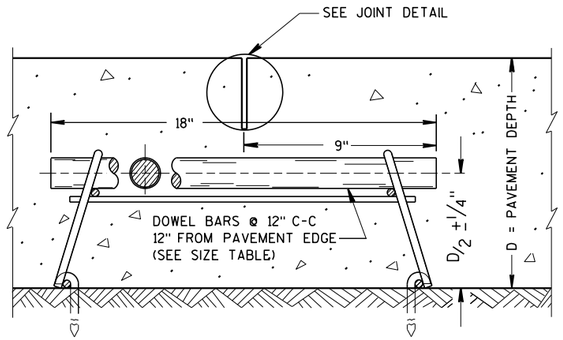
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

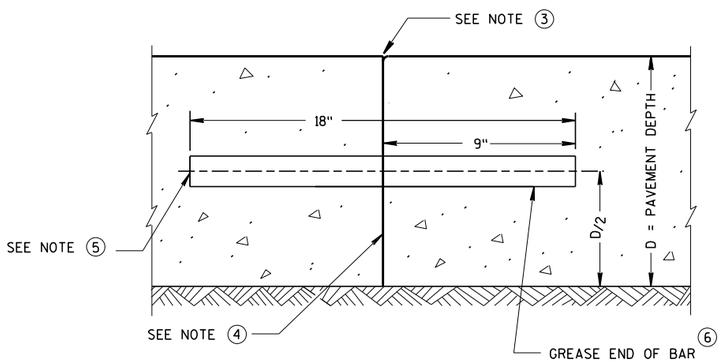
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

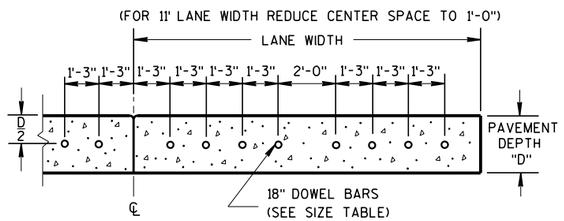
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR

FHWA

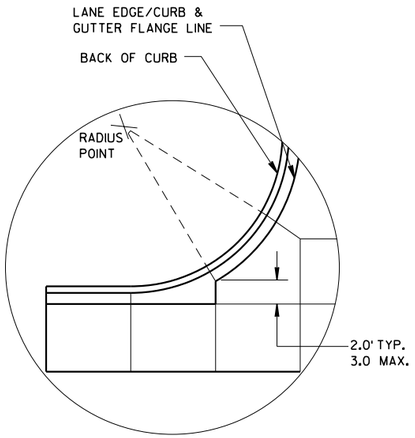
6

S.D.D. 13 C 11-12b

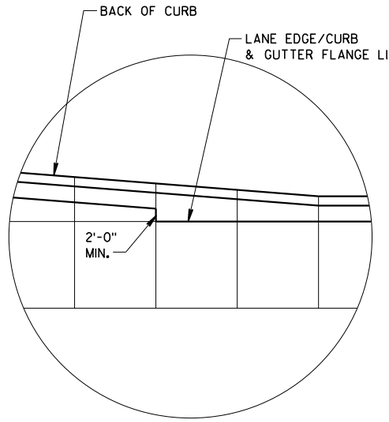
6

S.D.D. 13 C 11-12b

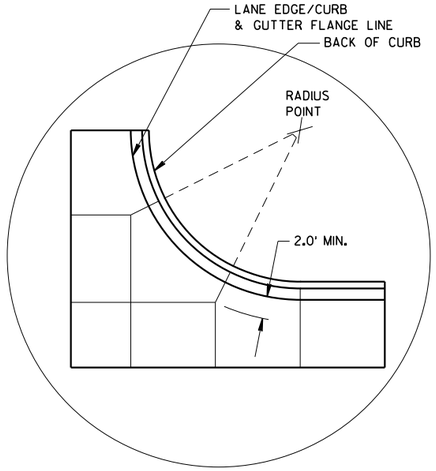
13C18 sheet a: Concrete Pavement Jointing



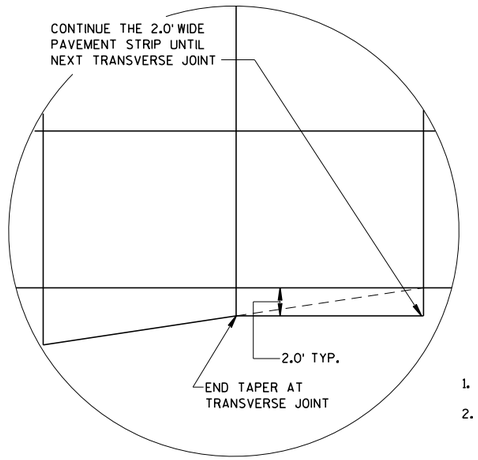
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

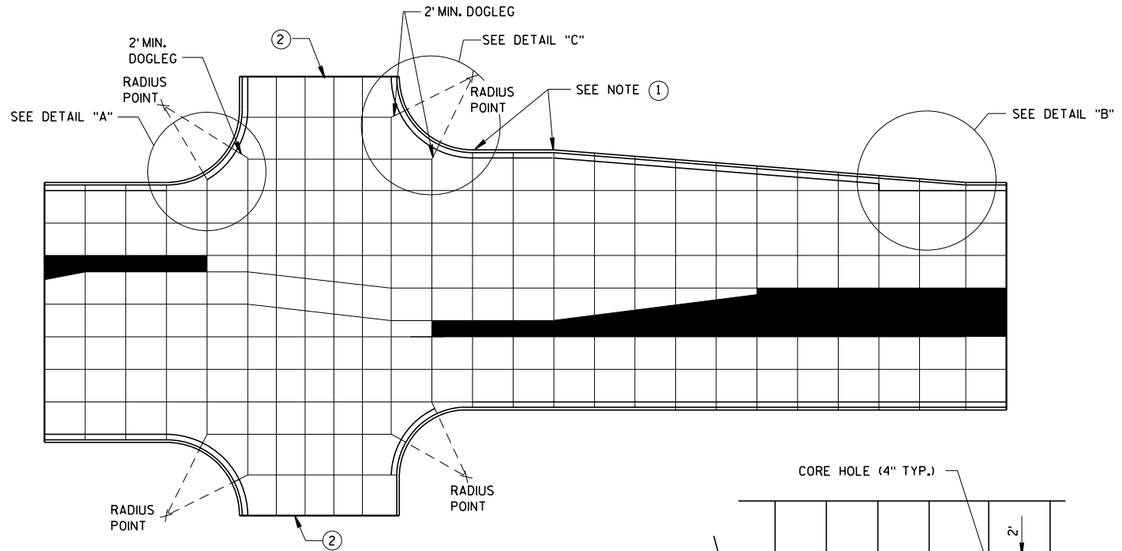
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

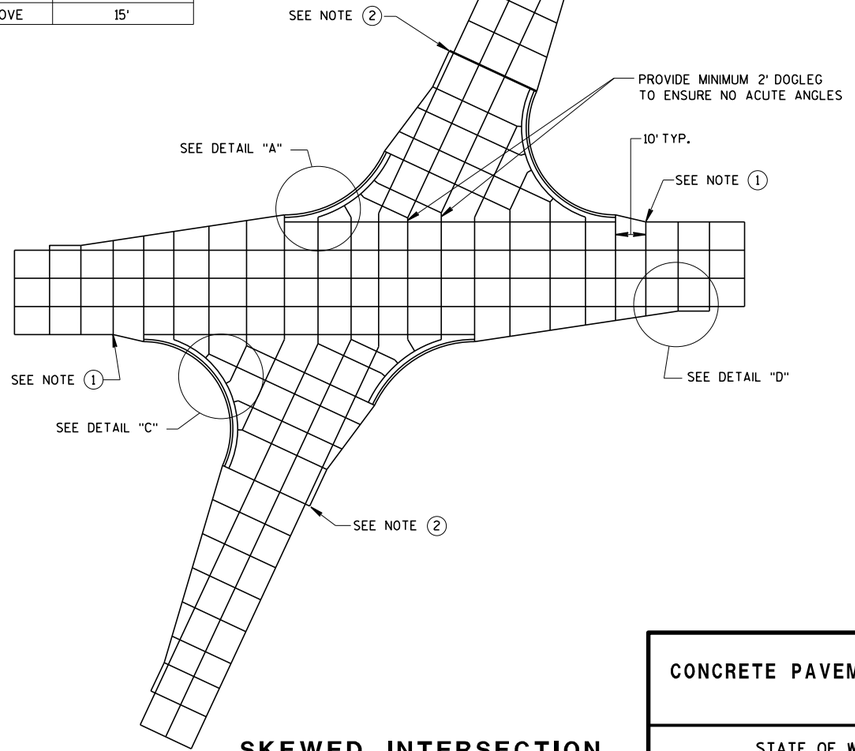
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



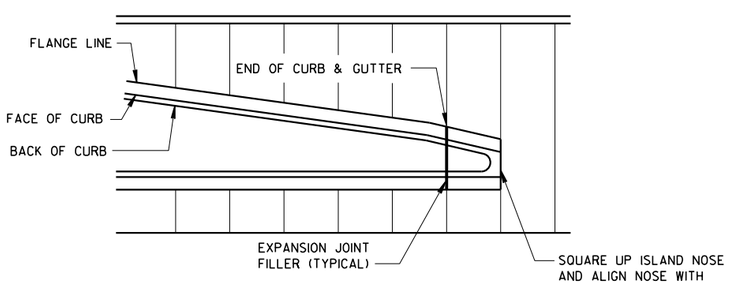
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

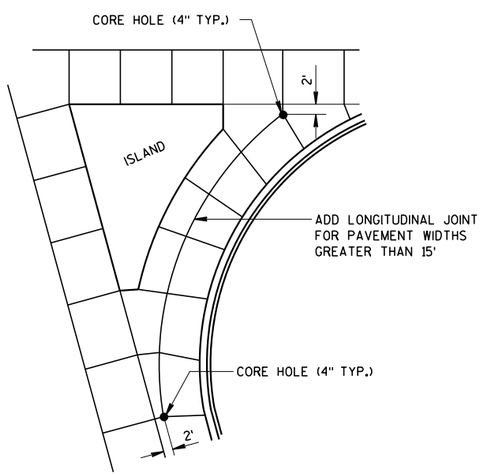
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 18-6a

6

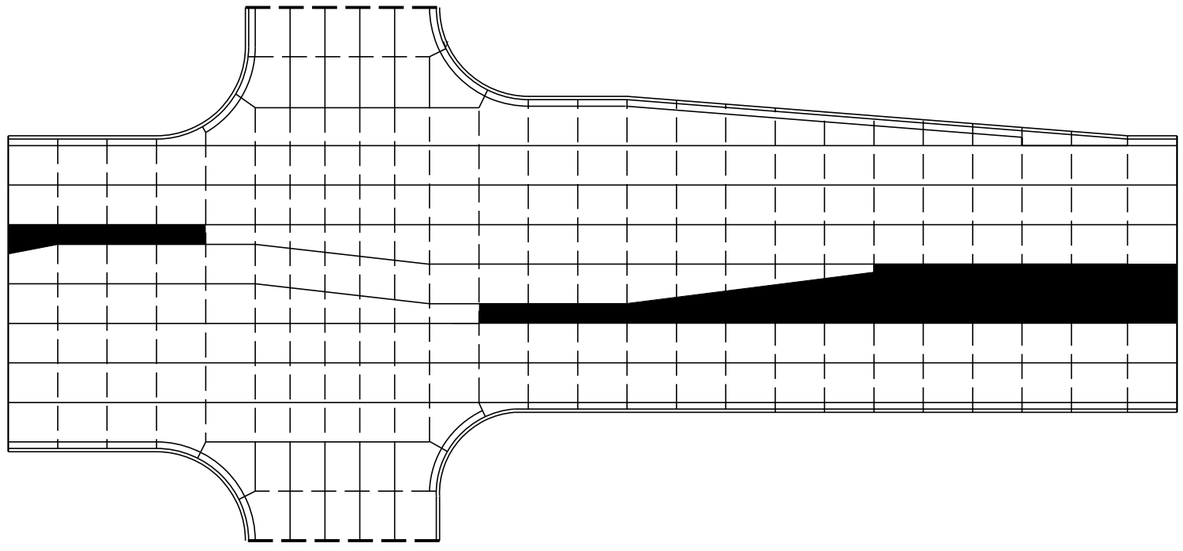
S.D.D. 13 C 18-6a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

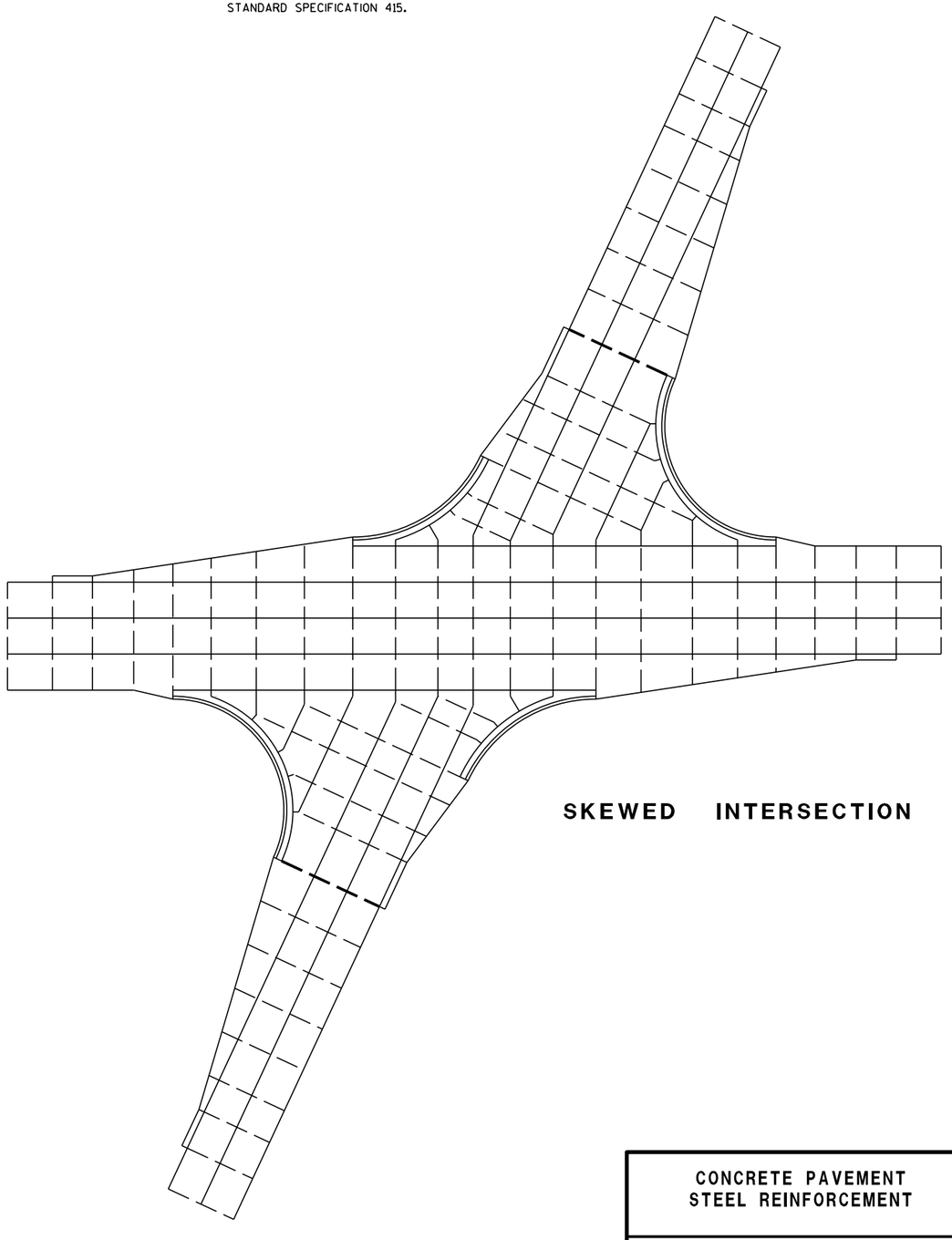
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

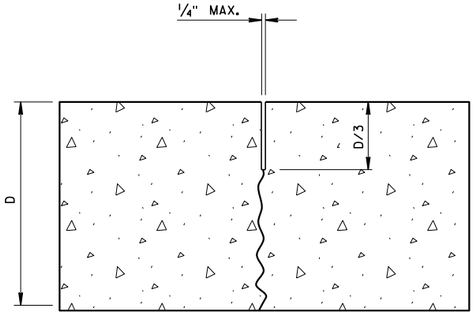
6

S.D.D. 13 C 18-6b

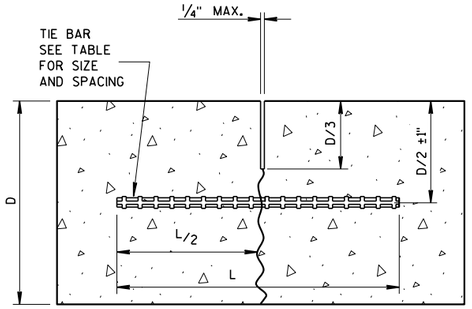
6

S.D.D. 13 C 18-6b

13C18 sheet c: Concrete Pavement Joint Types



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

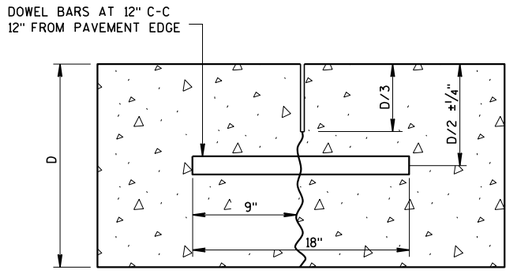
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

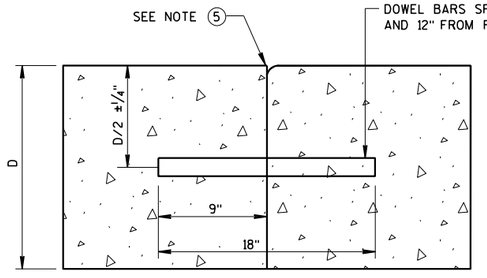
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



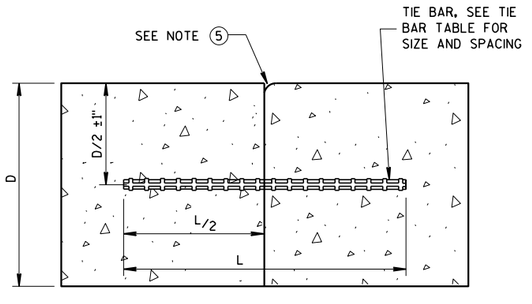
DOWELED-TRANSVERSE

CONTRACTION JOINTS

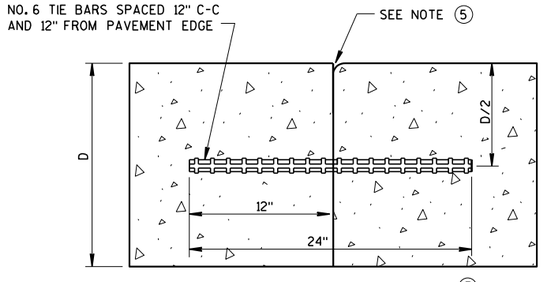
SEE NOTE (2)



DOWELED TRANSVERSE (3)

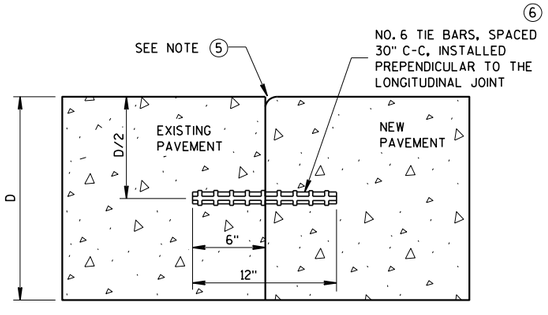


TIED LONGITUDINAL



TIED TRANSVERSE (3)

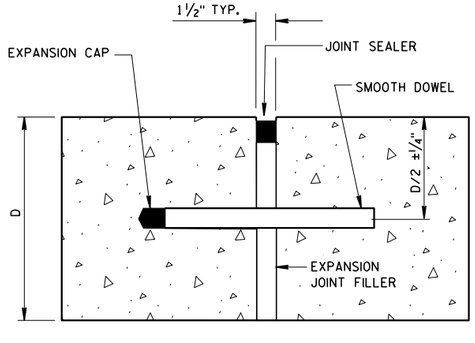
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

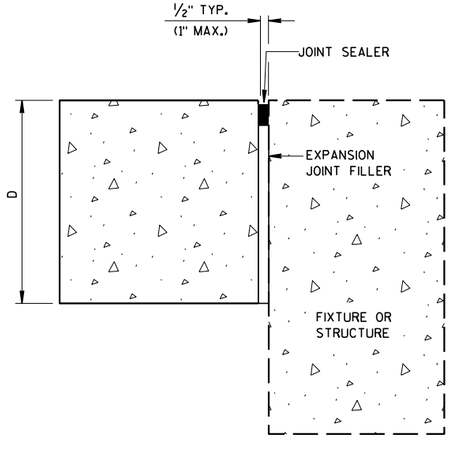
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

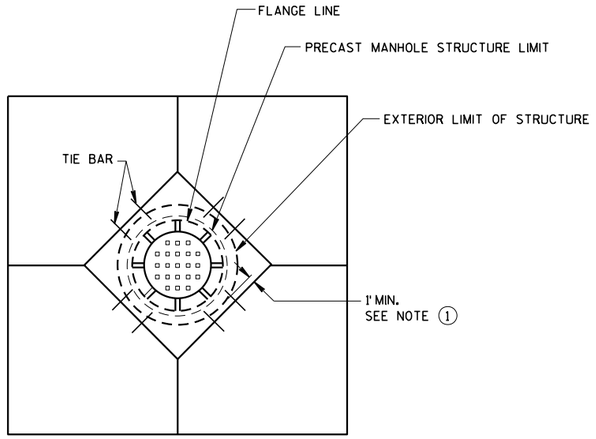
6

6

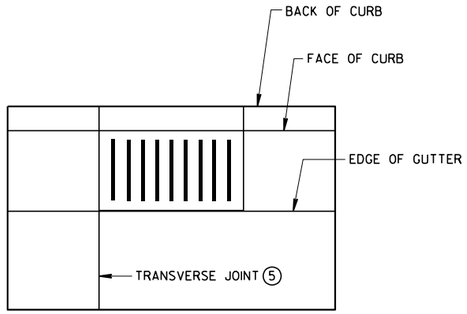
S.D.D. 13 C 18-6c

S.D.D. 13 C 18-6c

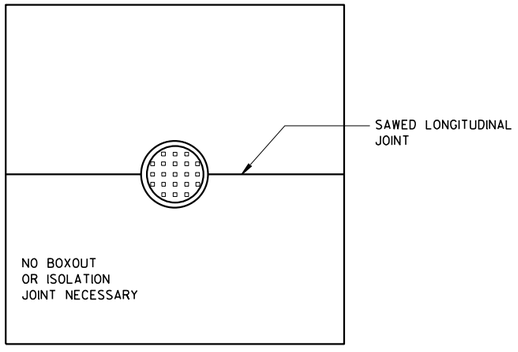
13C18 sheet d: Concrete Pavement Jointing at Utility Fixtures



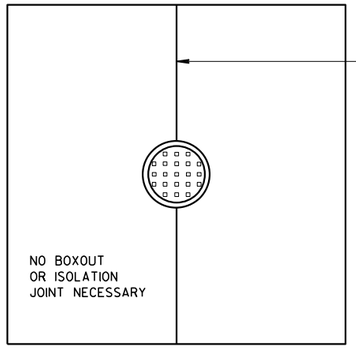
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



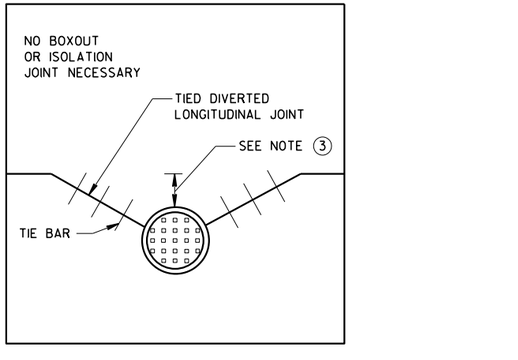
INLET WITH TRANSVERSE JOINT



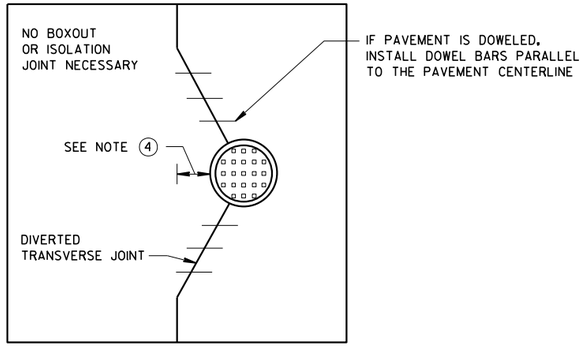
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

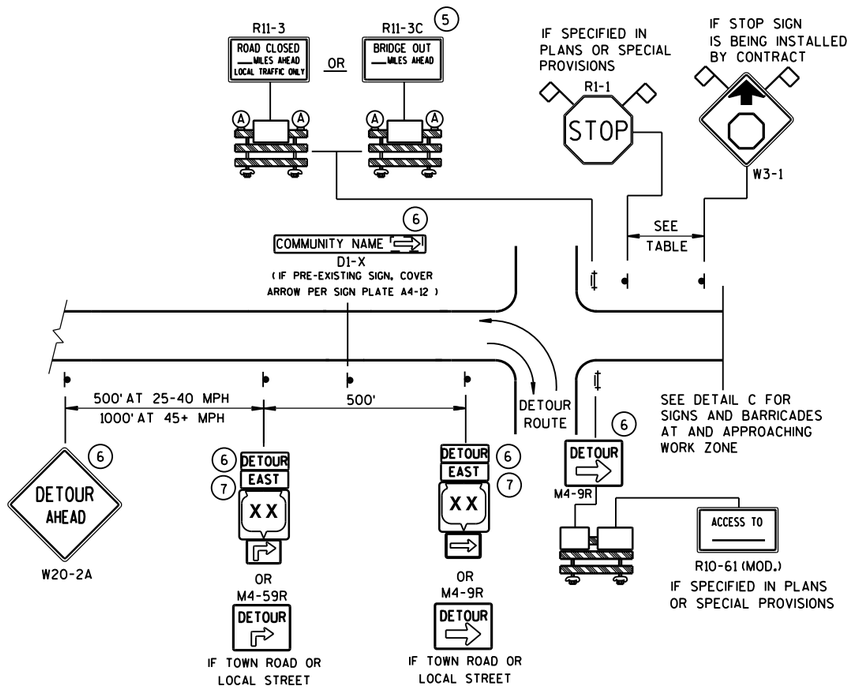
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERVISOR
FHWA

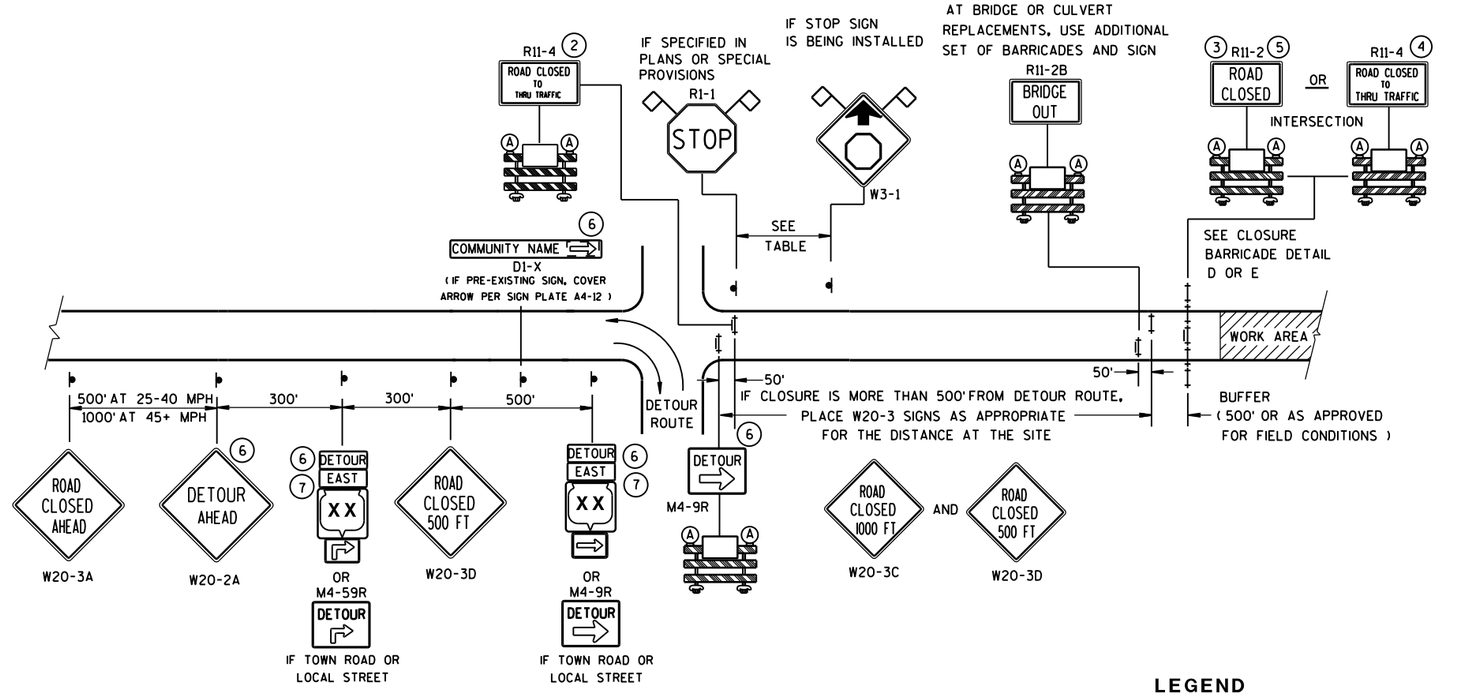
6
S.D.D. 13 C 18-6d

SDD 15c2-a Barricades and Signs for Mainline Closures



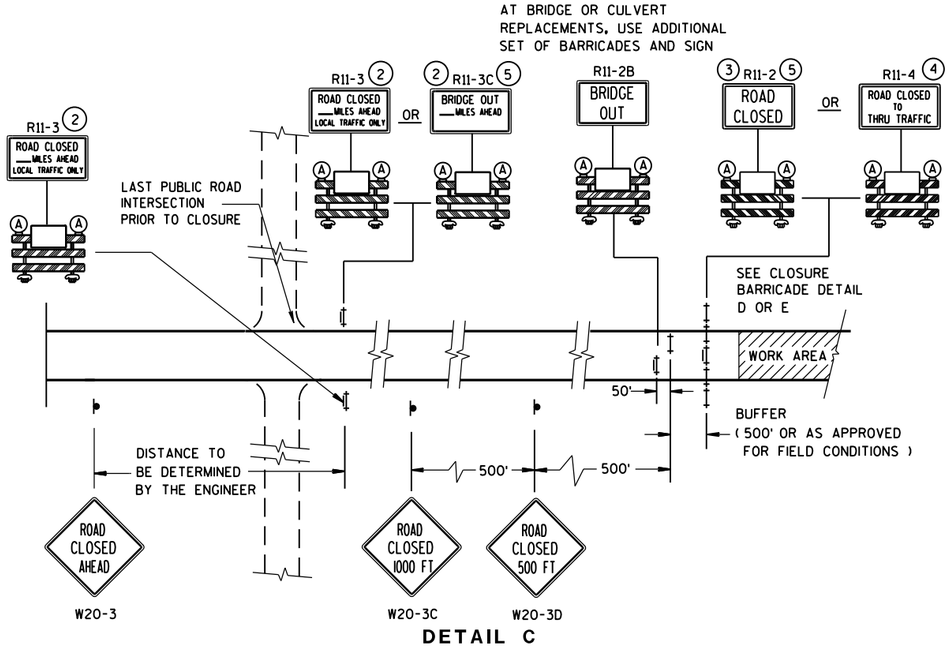
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

SEE SDD 15C2-SHEET "**b**" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

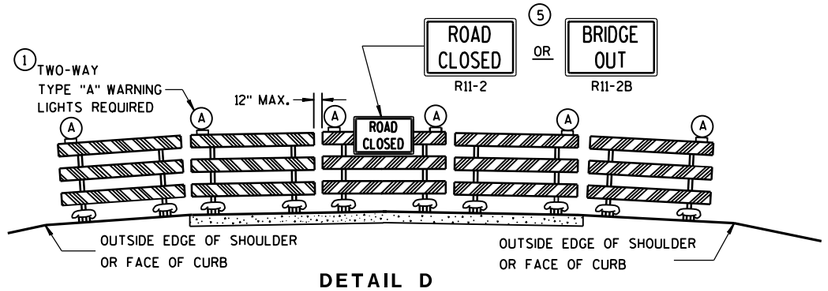
6

S.D.D. 15 C 2-6a

6

S.D.D. 15 C 2-6a

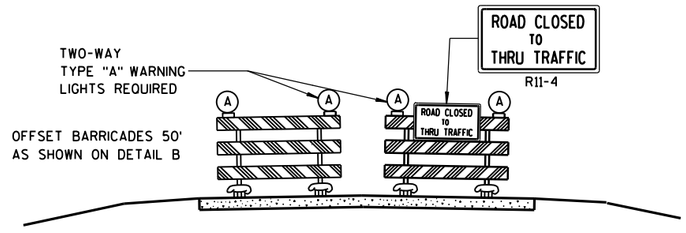
SDD 15c2-b Barricades and Signs for Mainline Closures



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

6

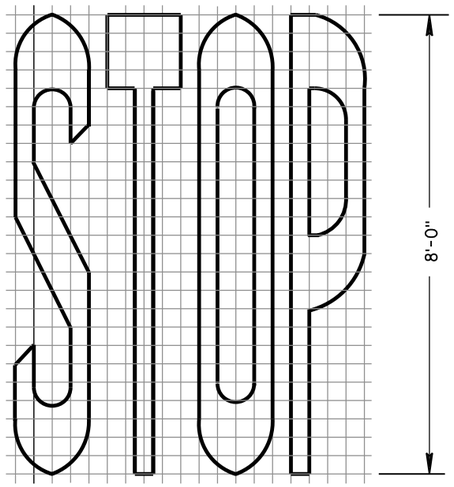
S.D.D. 15 C 2-6b

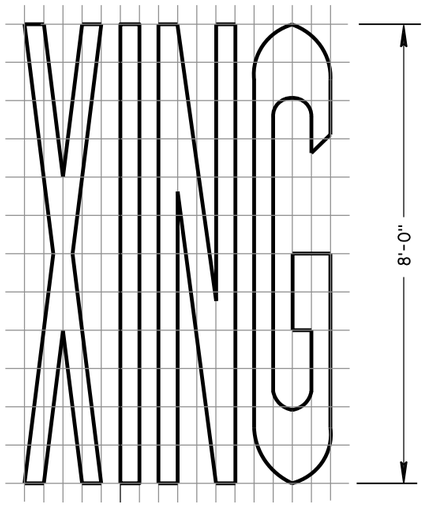
6

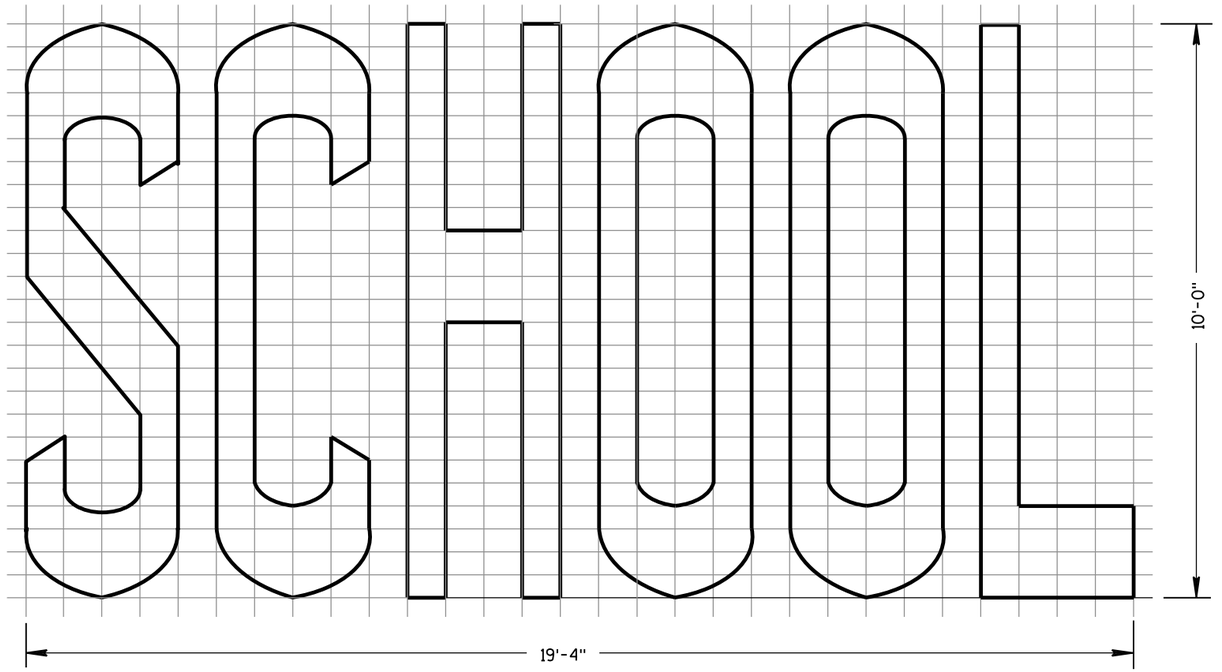
S.D.D. 15 C 2-6b

GENERAL NOTES

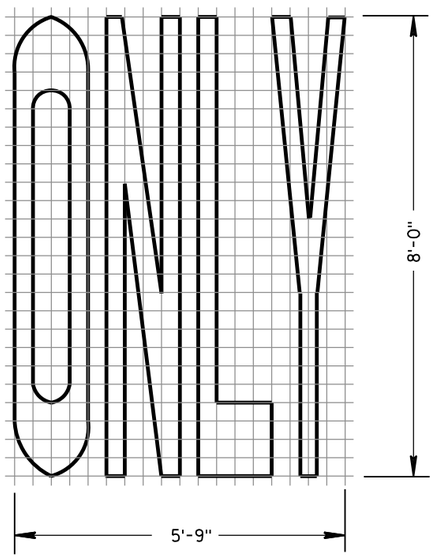
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

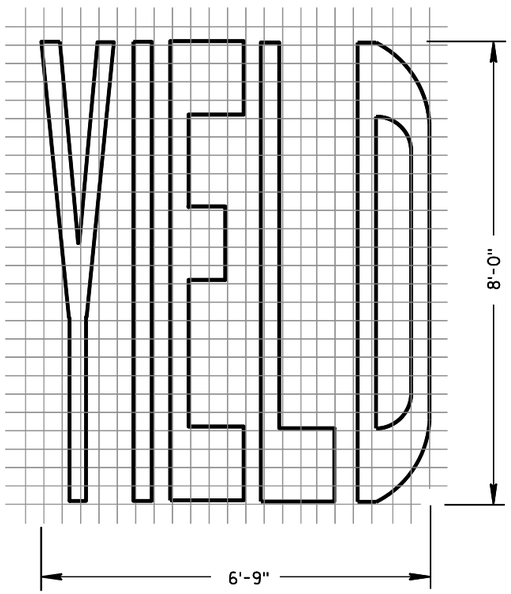


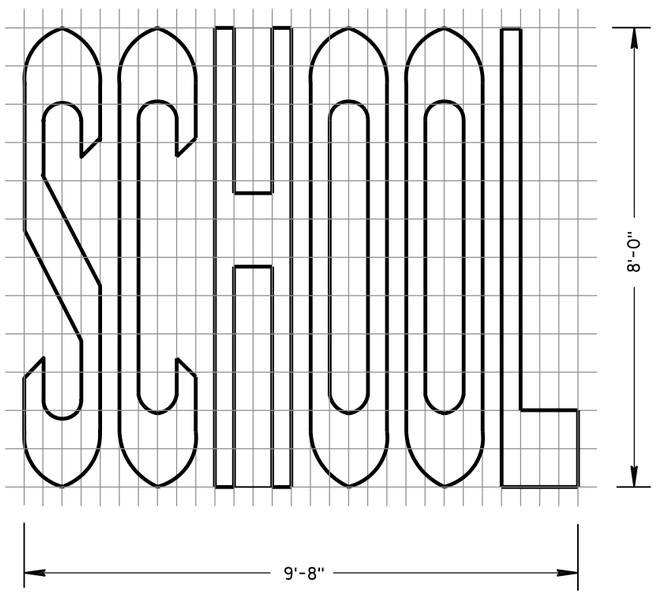




TWO-LANE







SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

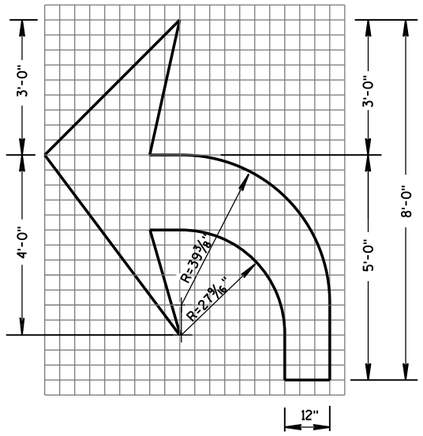
6

S.D.D. 15 C 7-14b

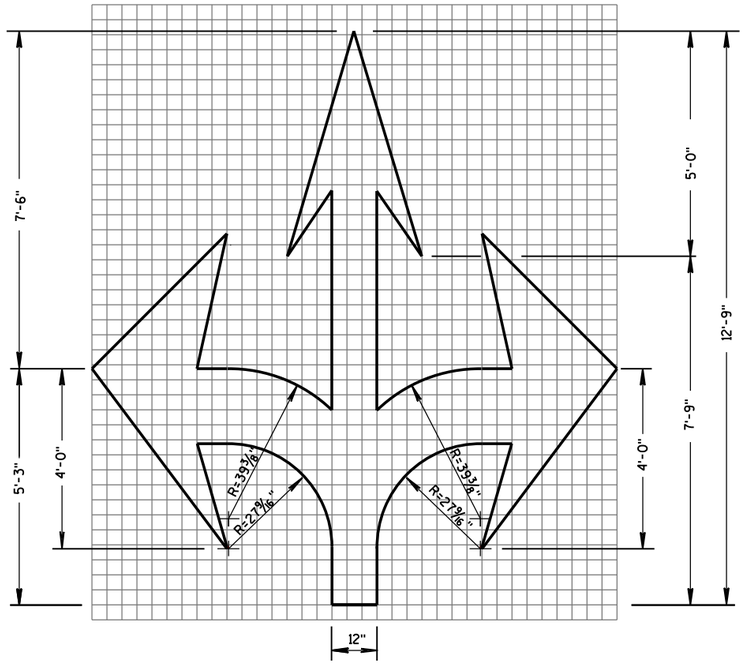
6

S.D.D. 15 C 7-14b

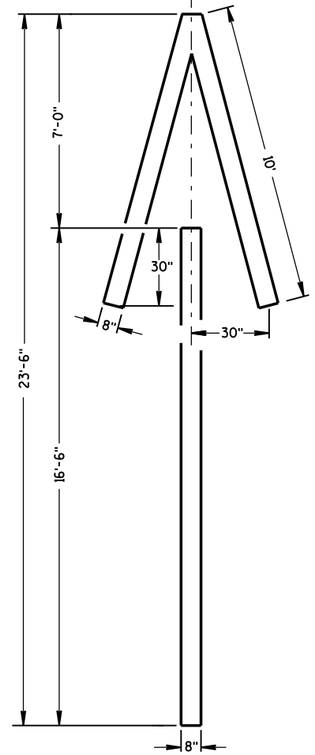
SDD 15c7-c Pavement Marking Words, Symbols and Arrows



TYPE 2



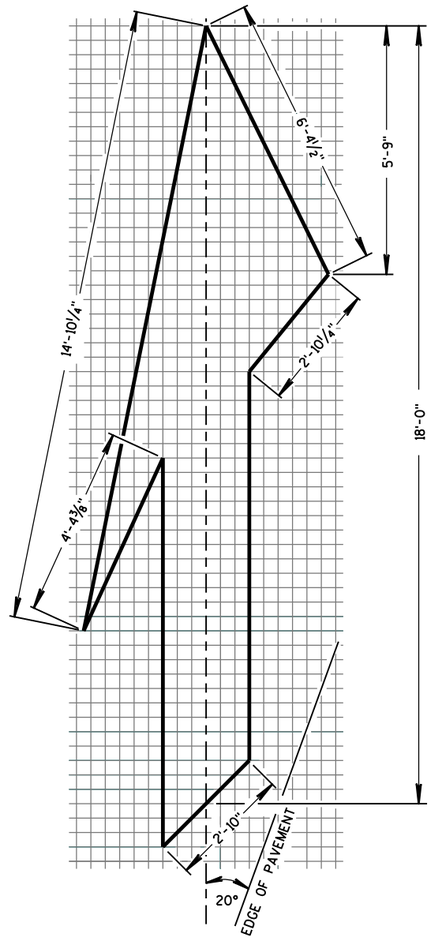
TYPE 6



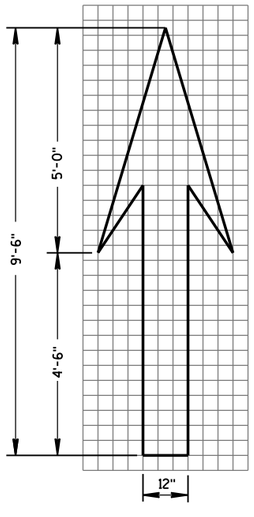
TYPE 4

GENERAL NOTES

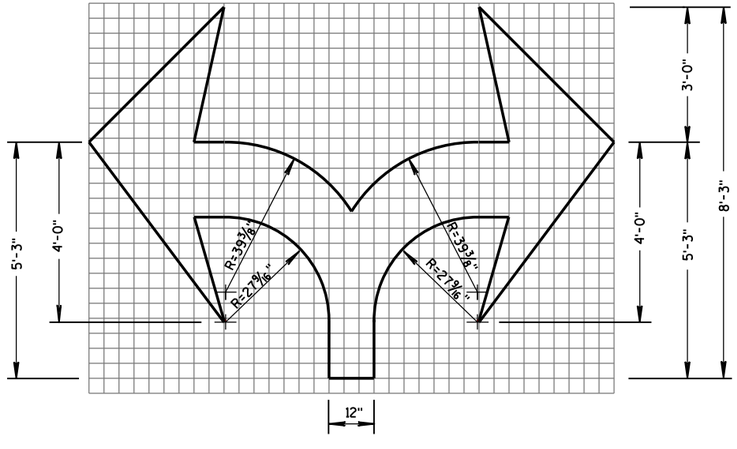
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



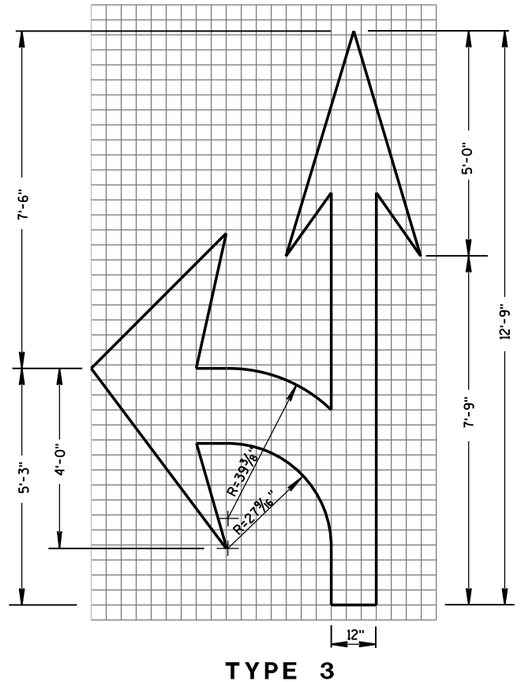
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

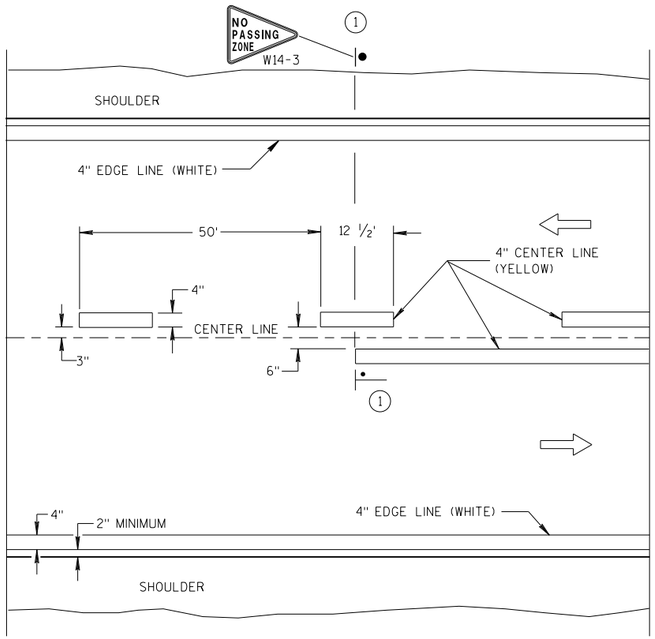
6

S.D.D. 15 C 7-14c

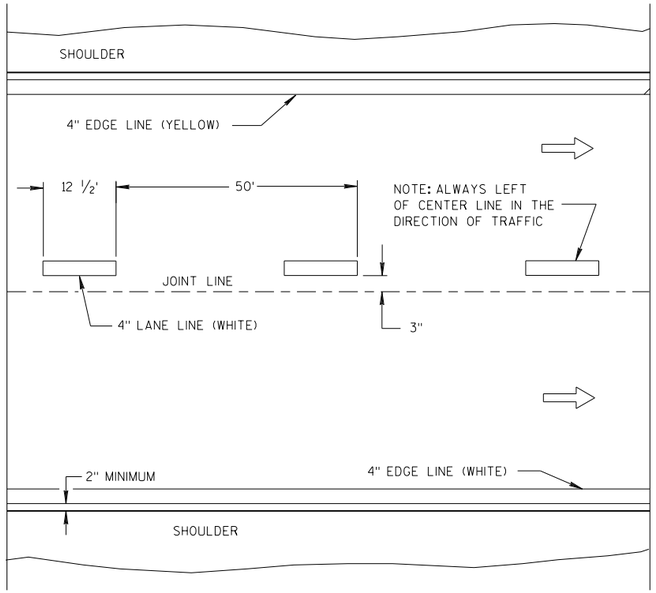
6

S.D.D. 15 C 7-14c

SDD 15c8-a Longitudinal Marking (Mainline)



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

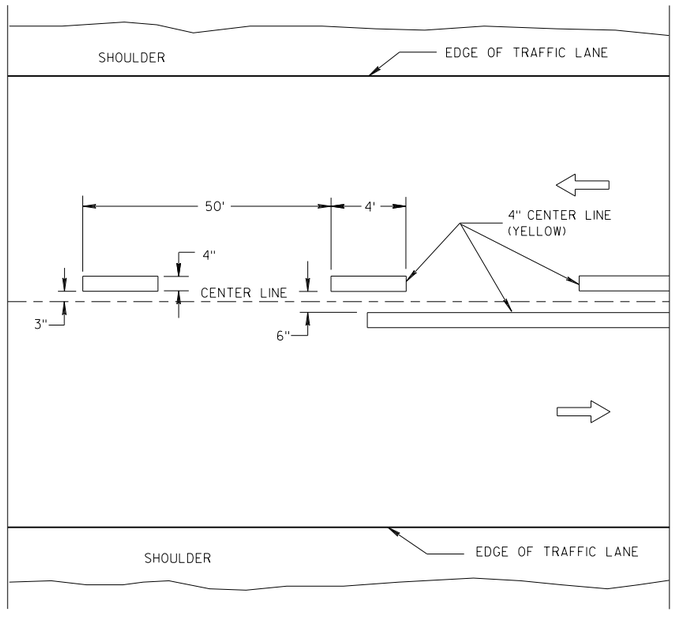
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

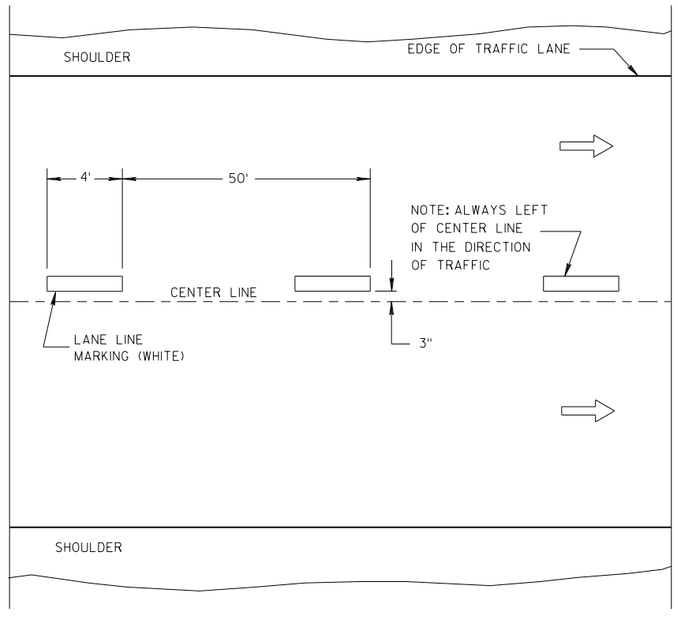
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

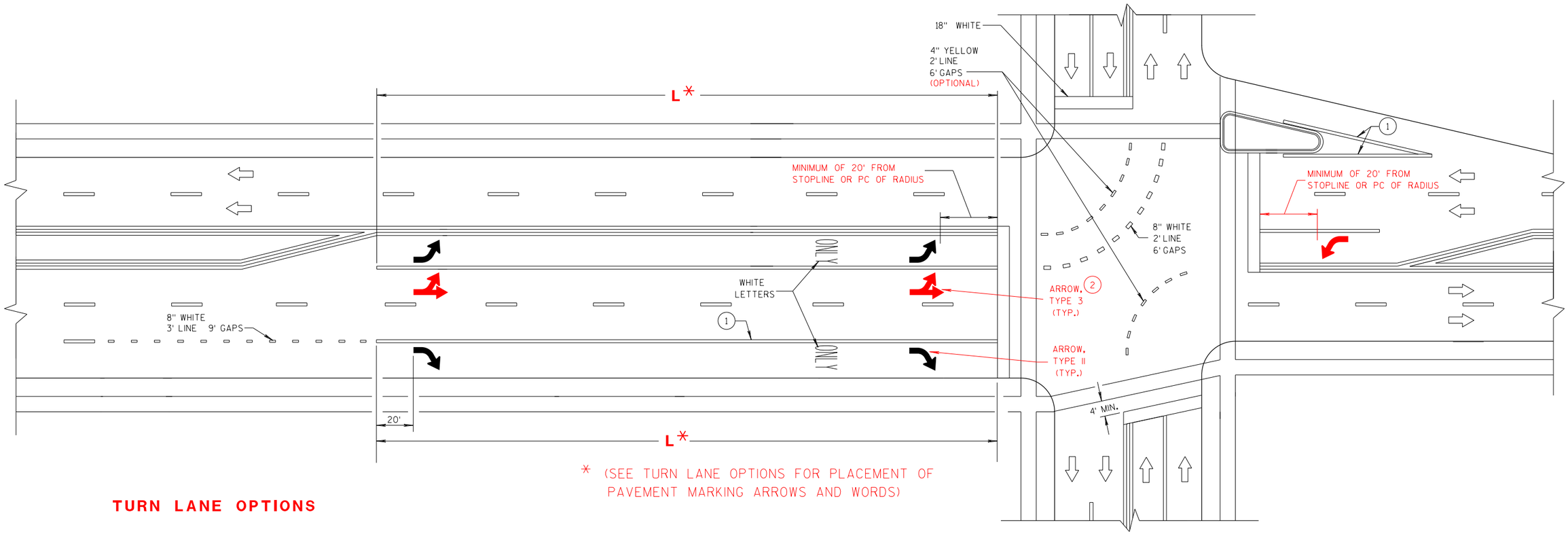
6

S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a

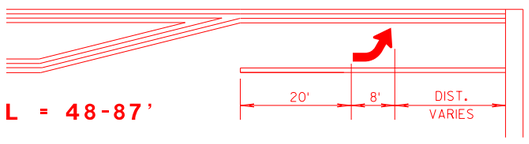
SDD 15c8-c Pavement Marking (Turn Lanes)



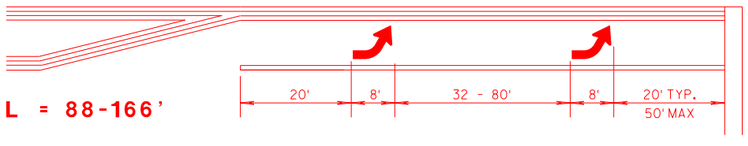
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48-87'



L = 88-166'

L = >166'

GENERAL NOTES

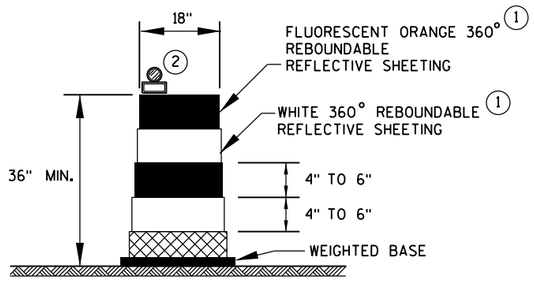
1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

⇨ DIRECTION OF TRAFFIC

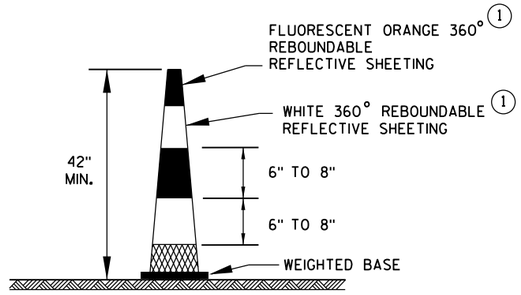
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DRUM

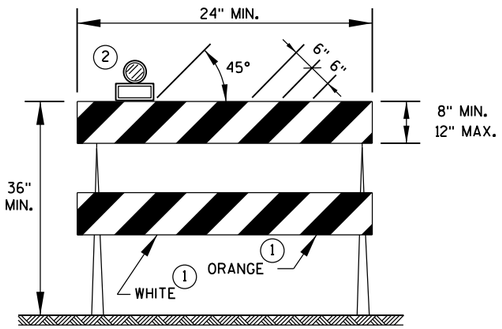


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

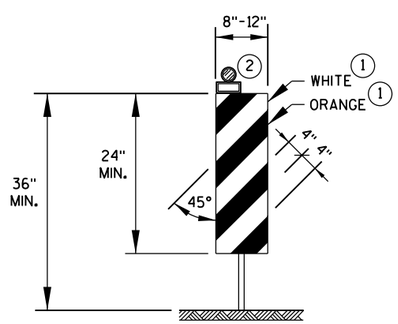
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



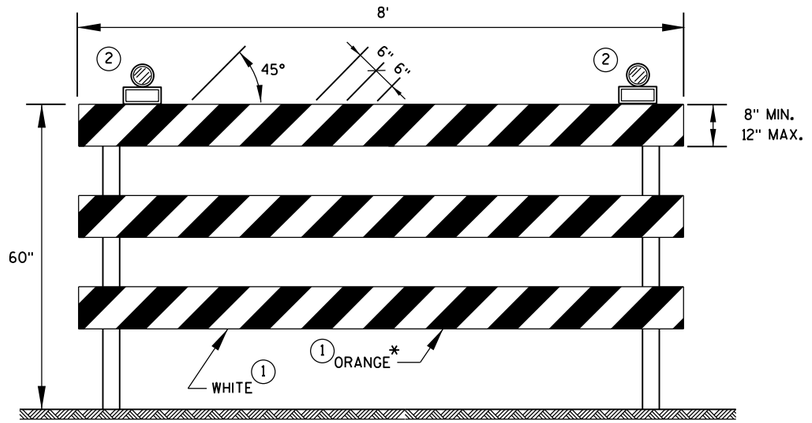
TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June 2017 (DATE)	/S/ Andrew Heidtke (WORK ZONE ENGINEER)
FHWA	

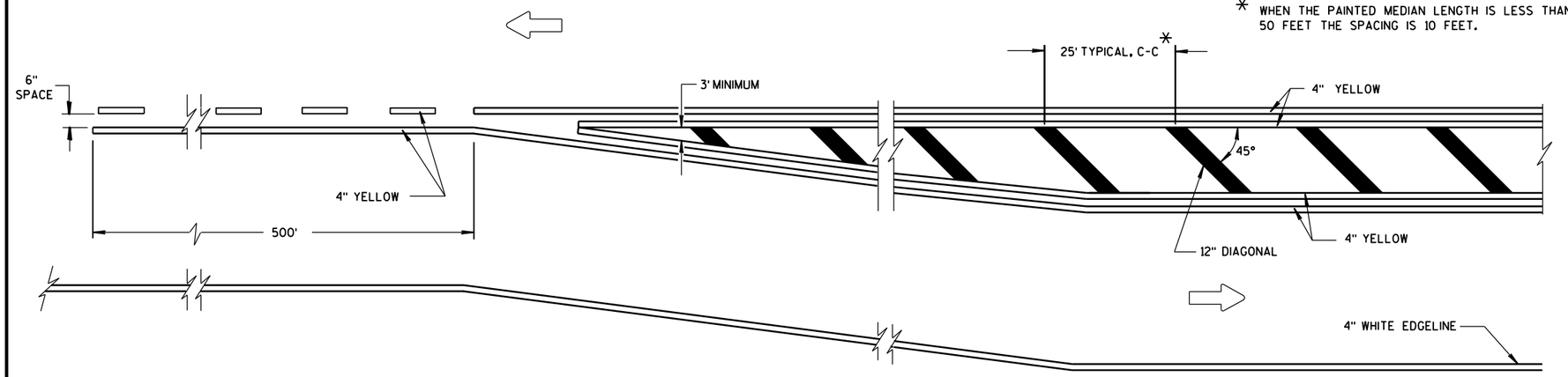
6

S.D.D. 15 C 11-7b

6

S.D.D. 15 C 11-7b

SDD 15c18 Median Island Marking

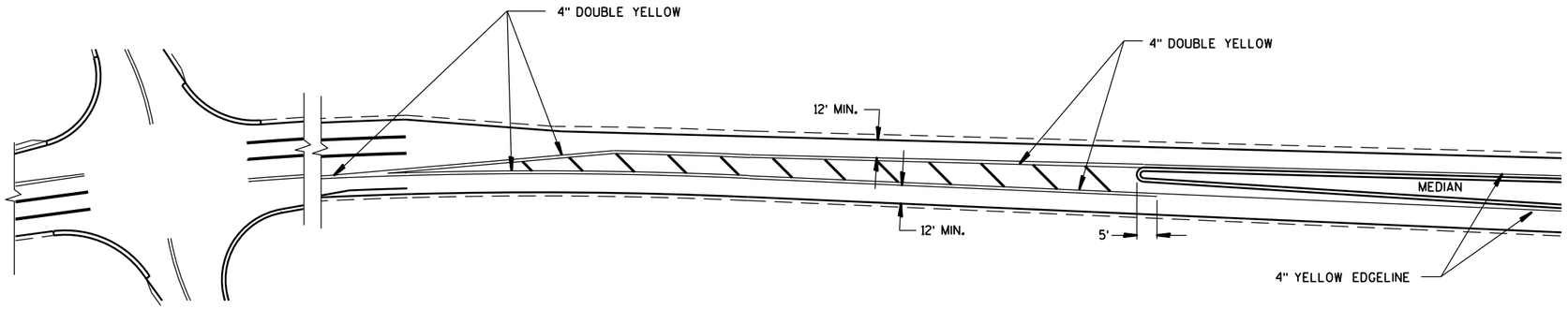


MEDIAN ISLAND DETAIL

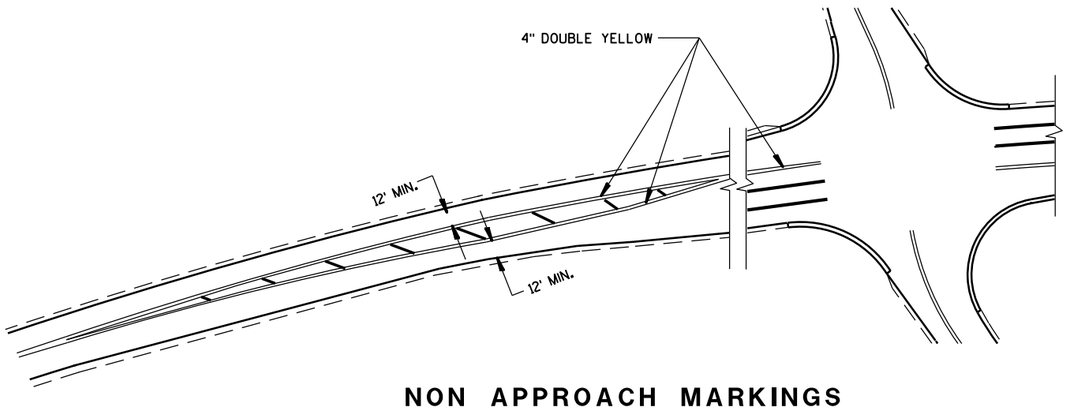
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

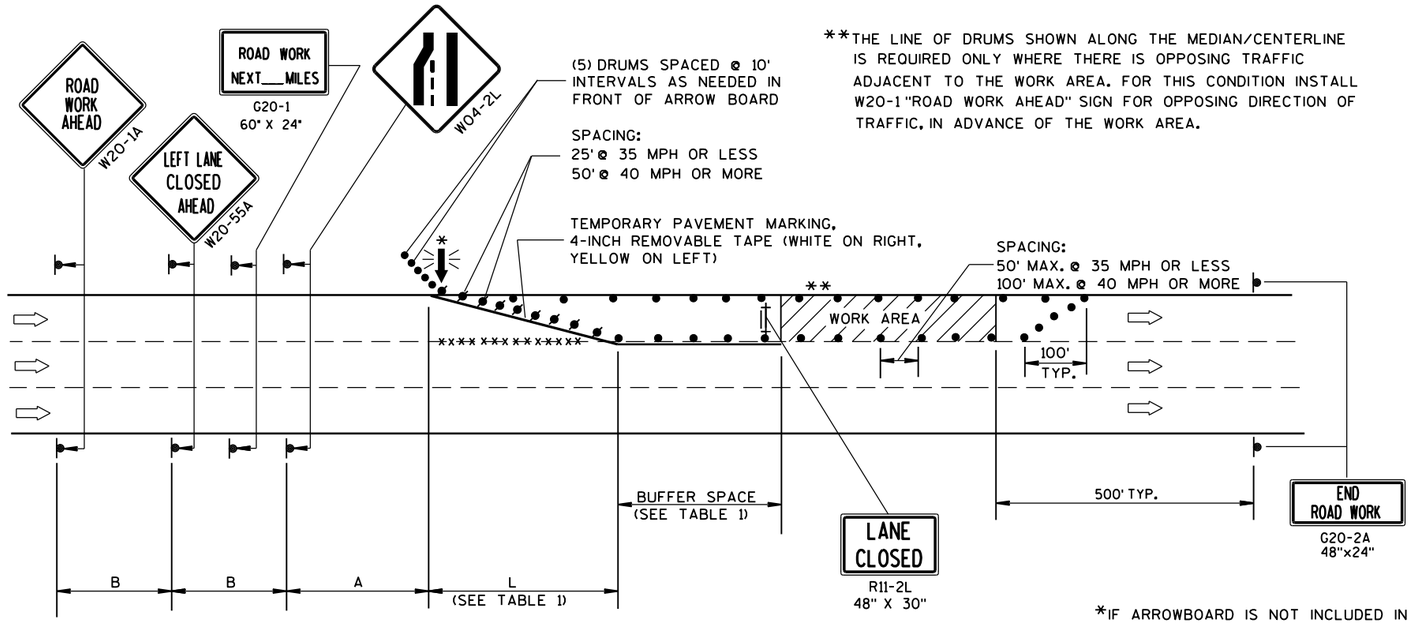
6

S.D.D. 15 C 18-4

6

S.D.D. 15 C 18-4

15D20: Traffic Control, Single Lane Closure, Non Freeway/Expressway



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

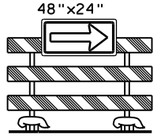


TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

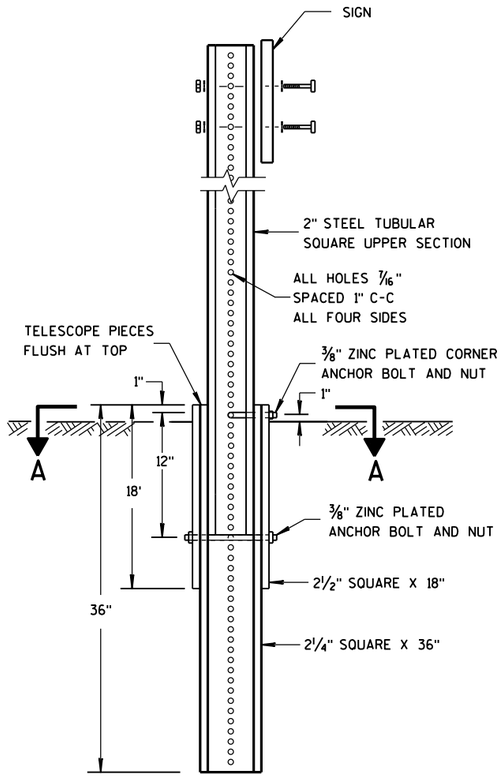
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

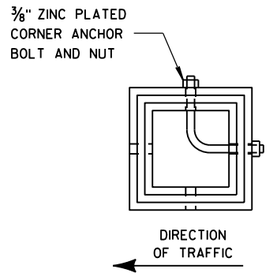
APPROVED
June 2016 — DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

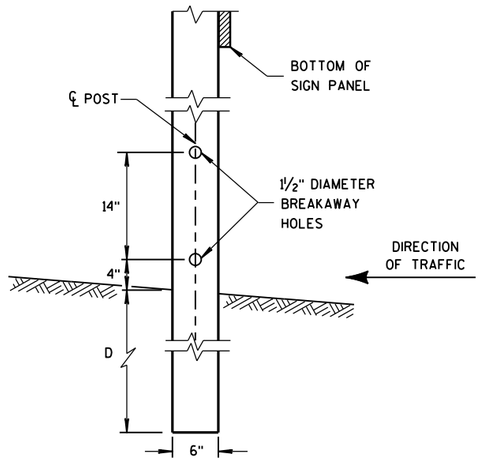
6
S.D.D. 15 D 20-4



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



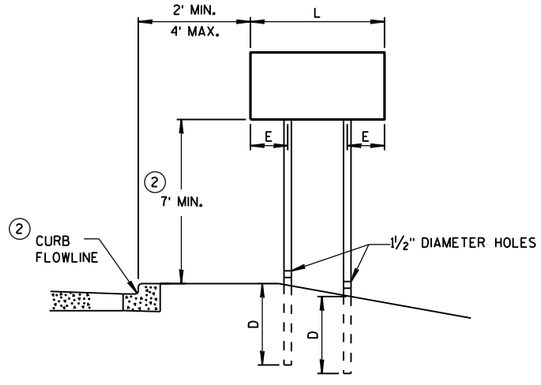
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

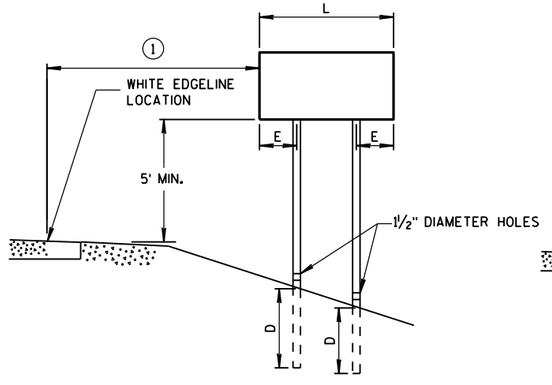
1. 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

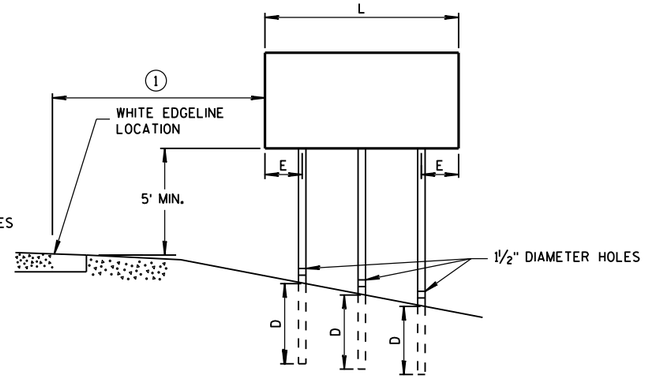
2. THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

3. FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

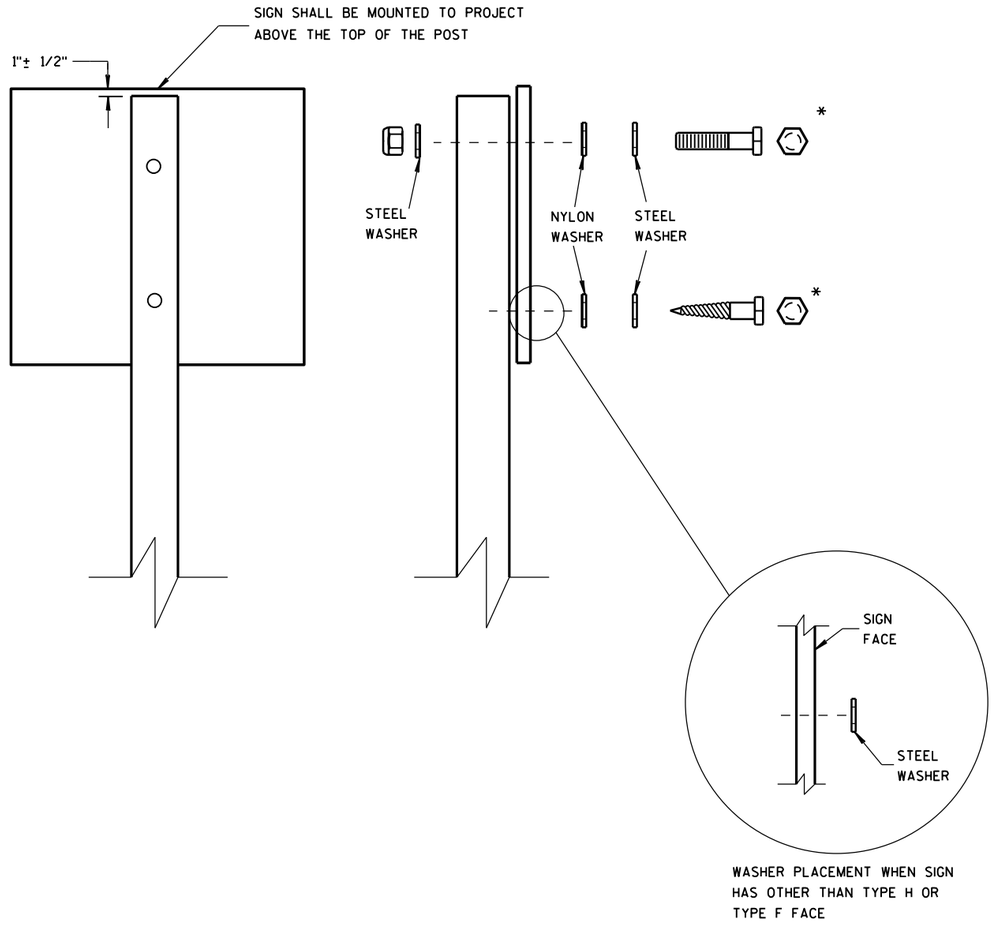
6

S.D.D. 15 D 38-2a

6

S.D.D. 15 D 38-2a

15D38 sheet b: Traffic Control, Sign Mounting



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENGINEER

FHWA