

City of Lorain ROADWAY STANDARD DESIGNS



City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
(440) 204-2003

E:\Autocad - Blocks - Standards\COL STANDARDS#0_CURRENT Standards\Regular\GN-1.0.dwg - GN-1.0 ~ Jul 28, 2022 - 3:38pm

City of Lorain
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NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764.

NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015		12	02/04/2021	SS-3.0 & ST-2.0 REVISED
6	06/20/2017		13	07/28/2022	VARIOUS REVISIONS
8	07/01/2018				
10	06/20/2019	UPDATED DATES ADDED			
11	06/23/2020	ADDED MS-1.1			
11	06/23/2020	SS-8.0 REVISED			

City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS
GENERAL
INDEX

CAD FILE:

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DV

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08/19/2015

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NONE

SHEET:

GN-1.0

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GENERAL

1. ALL WORK AND MATERIALS FURNISHED SHALL BE IN ACCORDANCE WITH THE PLANS AND THE CURRENT EDITIONS OF THE "STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS" AND THE "CITY OF LORAIN STANDARD DESIGNS", SHALL MEET AASHTO M306 STANDARDS AND SHALL BE MADE IN THE USA. CITY PLANS SUPERCEDE ODOT SPECS.
2. WHERE GROUND COVER IS DISTURBED DURING THE CONSTRUCTION, THE CONTRACTOR SHALL INSTALL ALL NECESSARY EROSION CONTROL AND DRAINAGE CONTROL DEVICES IN ACCORDANCE WITH REGULATIONS OF THE CITY OF LORAIN, AND THE OHIO EPA. THESE DEVICES SHALL BE ROUTINELY MONITORED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL SATISFACTORY GROUND COVER HAS BEEN RE-ESTABLISHED. NO WORK SHALL BEGIN UNTIL ALL SUCH DEVICES ARE IN PLACE.
3. ALL DEVELOPMENTS INVOLVING UTILITY IMPROVEMENTS SHALL HAVE DETAILED DESIGN DRAWINGS PREPARED AND SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR. DRAWINGS SHALL BE SIGNED AND DATED BY THE PREPARING ENGINEER OR SURVEYOR OR WILL NOT BE CONSIDERED VALID. ELECTRONIC AS-BUILTS OF ALL IMPROVEMENTS SHALL BE PROVIDED AND SEALED BY A PROFESSIONAL SURVEYOR. AS-BUILT COMPATIBILITY WITH GIS IS REQUIRED.
4. CITY OF LORAIN STANDARD DESIGNS CONSTITUTE A MINIMUM DESIGN STANDARD. SPECIFIC PROJECTS MAY INVOLVE SPECIAL CIRCUMSTANCES WHICH REQUIRE MODIFICATION OF STANDARDS AND ADDITIONAL ENGINEERING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL DESIGN AND FOR OBTAINING APPROVAL OF ANY STANDARD DESIGNS MODIFICATIONS.
5. PAVEMENT MARKINGS WHICH ARE DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF LORAIN, ODOT, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES REQUIREMENTS.
6. DOMESTIC IRON AND STEEL SHALL BE USED FOR ALL CASTINGS, FITTINGS AND STEEL PRODUCTS.
7. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE MUST BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE 3714.
8. AT THE END OF EACH DAY THE CONTRACTOR SHALL CLEAN ALL PUBLIC WALKS AND STREETS USED IN CONJUNCTION WITH THE PROJECT TO THE SATISFACTION OF THE ENGINEER.
9. ALL MATERIAL, I.E., MANHOLE FRAMES OR LIDS, FIRE HYDRANTS, INLET FRAMES OR GRATES AND MONUMENT BOXES DIRECTED TO BE SALVAGED SHALL BE DELIVERED ON WOOD PALLETS BY THE CONTRACTOR TO THE CITY OF LORAIN SEWER DEPARTMENT AT 6301 WEST ERIE AVENUE (ACCESS FROM OAK POINT ROAD, BEAR LEFT AT DRIVEWAY SPLIT). FOR EACH ITEM THAT IS TO BE SALVAGED AND NOT DELIVERED TO THE SEWER DEPARTMENT, THERE WILL BE A REASONABLE MONETARY SUM WITHHELD FROM THE CONTRACT PAYMENTS AND CHARGED AGAINST THE CONTRACTOR. CALL (440) 204-2200 TO MAKE ARRANGEMENTS FOR THE MATERIAL DELIVERY.
10. WHEN, FOR ANY REASON, THE WORK IS LEFT UNFINISHED FOR AN EXTENDED PERIOD OF TIME, AS DEFINED BY THE ENGINEERING DEPARTMENT, ALL TRENCHES AND EXCAVATIONS SHALL BE FULLY PROTECTED OR FILLED TO LEAVE THE SITE IN A GOOD AND SAFE CONDITION.
11. A PRECONSTRUCTION CONFERENCE SCHEDULED BY THE ENGINEER SHALL BE HELD PRIOR TO THE START OF ANY WORK.
12. THE ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF THE START OF ANY WORK UNDER THE CONTRACT IN ORDER TO SCHEDULE THE ASSIGNMENT OF AN INSPECTOR FOR THE WORK.
13. ALL SHOP DRAWINGS AND OTHER SUBMITTALS MUST BE CHECKED, APPROVED, AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER FOR REVIEW.
14. THE CONTRACTOR SHALL PROVIDE A PRECONSTRUCTION VIDEO TAPE SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO BE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE. ALL COSTS ASSOCIATED FOR THIS WORK, INCLUDING THE VIDEOTAPE SURVEY, SHALL BE INCLUDED IN ITEM 624-MOBILIZATION.
15. EXISTING STREET RIGHT-OF-WAYS SHALL BE CONSIDERED TO BE THE PROJECT LIMITS FOR ALL STREETS IN THE CONTRACT.
16. ALL EXCAVATED MATERIALS SHALL BE DEPOSITED AT AN APPROVED DUMP SITE IN ACCORDANCE WITH ODOT 105.16.
17. FURNISH THE ENGINEER A PROGRESS SCHEDULE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

**STANDARD DESIGNS
GENERAL
GENERAL NOTES**

CAD FILE:

GN-2.0.dwg

SHEET:

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DRWN BY:

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DV

ISSUE DATE:

08/19/2015

SCALE:

NONE

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GENERAL, CONT'D

19. THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED "AS DIRECTED BY ENGINEER" (ADBE) UNLESS AUTHORIZED BY THE PROJECT ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE DOCUMENTED AND THE CONTRACTOR SHALL BE PAID IN ACCORDANCE WITH THE CONTRACT UNIT PRICE FOR EACH APPLICABLE BID ITEM.
20. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES SHALL BE PROHIBITED WITHOUT AUTHORIZATION BY THE ENGINEER.
21. OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE OF THE HOURS OF 7:00 AM TO 7:00 PM IS PROHIBITED.
22. VIOLATION OF ANY CITY ORDINANCE MAY RESULT IN THE ISSUANCE OF A STOP WORK ORDER.
23. ALL BACKFILL SHALL BE PREMIUM BACKFILL; BACKFILL SHALL BE IN ACCORDANCE WITH THE TRENCH DETAILS SHOWN HEREIN. ALL BACKFILL IN SEWER TRENCHES SHALL BE PLACED IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENTS OF 100% MAXIMUM LABORATORY DRY DENSITY PER ASTM D-698 AND THOROUGHLY COMPACTED WITH MACHINE MOUNTED COMPACTION EQUIPMENT. THE PLACING OF BACKFILL MATERIAL SHALL BE CONTINUED UNTIL THE TRENCH IS ENTIRELY FILLED AND COMPACTED TO THE GRADE CALLED FOR ON THE CONTRACT DRAWINGS. COMPACTION TESTING OF THE BACKFILL MAY BE REQUIRED BY THE CITY. THE CONTRACTOR SHALL PAY FOR ALL LABORATORY TESTING COSTS OF BACKFILL MATERIAL. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS OF WORK. ALL BACKFILL SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED.
24. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LANDSCAPED AREAS, PAVEMENT SURFACES, SIDEWALKS AND DRIVEWAYS TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH EXISTED PRIOR TO THE START OF WORK AS DECIDED BY ENGINEER. THE CONTRACTOR SHALL PERFORM ALL RESTORATION WITH MATERIALS IDENTICAL TO THE EXISTING SURFACE, INCLUDING, BUT NOT LIMITED TO ASPHALT AND CONCRETE PAVEMENT, ASPHALT, CONCRETE AND BRICK SIDEWALK, INTEGRAL CURB, AND SPECIAL SURFACES (SUCH AS COLORED OR TEXTURED) AS ENCOUNTERED. ALL DAMAGES TO OTHER EXISTING FACILITIES BY CONTRACTOR SHALL BE PAID BY THE EXPENSE OF THE CONTRACTOR.

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NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015				
7	01/01/2018				
9	01/01/2019				
11	02/04/2020	NO. 19 & 20 REMOVED			
13	05/02/2022	NO. 24 ADDED			

STANDARD DESIGNS GENERAL GENERAL NOTES			
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DRWN BY: EA	APPRVD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE
SHEET: GN-2.1			

ITEM 614 - MAINTAINING TRAFFIC

1. MAINTAIN THROUGH TRAFFIC AT ALL TIMES IN ACCORDANCE WITH ODOT ITEM 614 AND THE DETAILS AND NOTES ON THE STANDARD CONSTRUCTION DRAWINGS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN PEDESTRIAN, LOCAL ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY STONE DRIVES/WALKS WITH A MATERIAL WHICH IS APPROVED BY THE ENGINEER. THESE TEMPORARY STONE DRIVES SHALL BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER. COST FOR ALL MATERIALS, LABOR AND EQUIPMENT FOR CONSTRUCTION MAINTENANCE AND SUBSEQUENT REMOVAL SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC.
3. PROVIDE STEEL PLATES ACROSS TRENCHES AS DIRECTED TO PROVIDE TEMPORARY VEHICLE OR PEDESTRIAN ACCESS TO RESIDENCES. ADDITIONAL ACCOMMODATIONS MAY BE REQUIRED TO PROVIDE ACCESSIBILITY FOR VEHICLES OF HANDICAPPED OR OTHER IDENTIFIED RESIDENTS.
4. LANE CLOSURES AND RESTRICTIONS ARE PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A LANE CLOSURE/TRAFFIC RESTRICTION REQUEST 48 HOURS IN ADVANCE OF ANY PLANNED IMPLEMENTATION SPECIFYING THE LIMITS AND DURATION OF THE WORK. SAID REQUEST SHALL INCLUDE A MAP DEPICTING THE LOCATION OF ALL TRAFFIC CONTROL DEVICES (SIGNS, DRUMS, ETC.). IF PERMITTED, THE ENGINEER WILL APPROVE THE LENGTH AND DURATION OF LANE CLOSURES AND/OR TRAFFIC RESTRICTIONS, WITH THE INTENT OF MINIMIZING THE IMPACT TO THE TRAVELING PUBLIC. THE ENGINEER WILL NOT PERMIT LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME. THE CONTRACTOR IS RESPONSIBLE FOR ERECTING ALL NECESSARY DETOUR SIGNS AND TRAFFIC CONTROL DEVICES. COSTS SHALL BE INCLUDED IN ITEM 614, MAINTENANCE OF TRAFFIC.
5. THE CONTRACTOR SHALL POST SIGNS 24 HOURS IN ADVANCE TO NOTIFY CITIZENS OF THE NEED FOR NO PARKING ON THE STREET DURING CONSTRUCTION HOURS. FAILURE TO PERFORM THIS POSTING, OR NOT TO PERFORM WORK IN THE SPECIFIED TIME OF THE SIGN POSTING, WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ALL TOWING FEES AND FINES RESULTING FROM THE FAILURE TO EXECUTE THE WORK AS PER THE SIGN POSTING.
6. FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE WORK ZONE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD), ODOT ITEM 614, THE STANDARD CONSTRUCTION DRAWINGS AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.
7. FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS SUCH AS TEMPORARY STRIPING, BARRICADES, LIGHTING, FLAGGERS, AND OTHER SUCH TRAFFIC CONTROL DEVICES IN THE WORK ZONE IN ACCORDANCE WITH ITEM 614-MAINTAINING TRAFFIC SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION.
8. RELOCATE EXISTING TRAFFIC CONTROL DEVICES (SIGNS AND/OR TRAFFIC SIGNALS), LOCATED WITHIN THE WORK AREA, WHICH ARE REQUIRED FOR INTERIM OR PERMANENT TRAFFIC CONTROL, TO POINTS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ERECTING ALL NECESSARY DETOUR SIGNS AND TRAFFIC CONTROL DEVICES. COSTS SHALL BE INCLUDED IN ITEM 614-MAINTENANCE OF TRAFFIC.
9. ALL STREET AND TRAFFIC SIGNS REMOVED DURING CONSTRUCTION SHALL BE REINSTALLED AS REQUIRED UPON COMPLETION OF THE PROJECT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING DUST, DIRT AND MUD DUE TO CONSTRUCTION IN THE PROJECT AREA DURING THE LIFE OF THE PROJECT. DUST CONTROL OPERATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT THE TIME, LOCATION AND IN THE AMOUNT ORDERED BY THE ENGINEER AND SHALL BE IN ACCORDANCE WITH ITEM 616 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. ONLY WATER SHALL BE USED FOR DUST CONTROL NEAR SURFACE WATER AND CATCH BASINS. THE COST FOR THESE OPERATIONS SHALL BE INCLUDED IN ITEM 614-MAINTENANCE OF TRAFFIC.
11. THE PROVISIONS OF THIS SECTION SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF ANY OF HIS LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC. THE CONTRACTOR SHALL INDEMNIFY AND SAVE HARMLESS THE CITY OF LORAIN FROM ANY EXPENSE WHATSOEVER DUE TO HIS OPERATION OVER SAID ROADWAYS.

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NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015				
9	01/01/2019				
10	06/20/2019	NO. 2 ADDED			
11	02/04/2020	NO. 10 REMOVED			

STANDARD DESIGNS GENERAL GENERAL NOTES

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ITEM 614 - MAINTAINING TRAFFIC, CONT'D

12. THE CONTRACTOR SHALL CONTACT THE FOLLOWING ENTITIES PRIOR TO CHANGING THE CURRENT TRAFFIC CONFIGURATION:

LORAIN CITY SCHOOLS TRANSPORTATION
SHONTEEA FORD
CHARLESTON ADMINISTRATION CENTER
2601 POLE AVE.
LORAIN, OHIO 44052
PH: 440-830-4047
EMAIL: SFORD@LORAIN.CSD.ORG

FIRST STUDENT
BRAD SPRAGUE
1800 COLORADO AVE.
LORAIN, OHIO 44052
PH: 440-288-2222 EXT. 222
EMAIL: BRAD.SPRAGUE@FIRSTGROUP.COM

LORAIN COUNTY TRANSIT
PAMELA NOVAK
226 MIDDLE AVE.
ELYRIA, OHIO 44035
PH: 440-329-5525
EMAIL: PNOVAK@LORAINCOUNTY.US

UNITED STATES POST OFFICE
CHARLES HIRSCH
3190 COLOADO AVENUE
LORAIN, OH 44052
PH: 440-288-8593
EMAIL: CHARLES.E.HIRSCH@USPS.GOV

REPUBLIC WASTE SERVICES
CHUCK ALLOMONG & TJ ROSE
PH: 440-458-5191
EMAIL: CALLOMONG@REPUBLICSERVICES.COM
TROSE2@REPUBLICSERVICES.COM

LORAIN ENGINEERING DEPARTMENT
DALE VANDERSOMMEN, PE - CITY ENGINEER
200 WEST ERIE AVENUE
LORAIN, OHIO 44052
PH: 440-204-2003

LORAIN CITY FIRE DEPARTMENT
CENTRAL FIRE STATION
1350 BROADWAY AVE.
LORAIN, OHIO 44052
PH: 440-204-2220

LORAIN POLICE DEPARTMENT
JAMES MCCANN, CHIEF
200 WEST ERIE AVENUE
LORAIN, OHIO 44052
PH: 440-204-2103

13. CONTRACTOR SHALL PROVIDE ENGINEER WITH A PLAN ON HOW DRIVE ACCESS WILL BE RESTORED AFTER PAVEMENT HAS CURED AND ITS MAINTENANCE. THE COST FOR THIS SHALL BE INCIDENTAL TO ITEM 614-MAINTENANCE OF TRAFFIC.
14. THE CONTRACTOR SHALL NOTIFY EACH RESIDENT OF ANY RESTRICTED ACCESS TO THEIR PROPERTY NO LATER THAN ONE (1) WEEK IN ADVANCE.
15. THE CONTRACTOR SHALL PROVIDE PERSONNEL TO DELIVER CORRESPONDENCE TO THE HOMEOWNERS AS NEEDED TO UPDATE RESIDENTS ON THE PROGRESS OF THE WORK. THE CONTRACTOR WILL PREPARE THIS CORRESPONDENCE AND THE ENGINEER WILL REVIEW AND APPROVE, PRIOR TO DELIVERY.
16. TEMPORARY CARDBOARD NO PARKING IN STREET OR TREELAWN SIGNS SHALL BE UTILIZED DURING CONSTRUCTION, ANY RESIDENT CARS THAT ARE PARKED IN THE TREELAWN (THE AREA BETWEEN THE CURB AND SIDEWALK) OR IN THE STREET WHERE PROHIBITED SHALL BE REPORTED FOR REMOVAL TO THE CITY OF LORAIN POLICE, TRAFFIC DIVISION. ANY CONTRACTOR PARKING ON THE TREELAWN WILL BE DOCUMENTED AND FULL RESTORATION WILL BE REQUIRED AT THE COST OF THE CONTRACTOR.

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NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015		11	02/04/2020	POST OFFICE ADDED
7	01/01/2018		11	02/04/2020	PREV. NO. 12 & 14 RMV.
9	01/01/2019				
10	06/20/2019	NO. 17 ADDED			
11	02/04/2020	NO. 14 CHANGED			
11	02/04/2020	POLICE CHIEF UPDATED			

City of Lorain

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PAVEMENT MARKING

- 1. FURNISH AND INSTALL PAVEMENT MARKINGS IN ACCORDANCE WITH ODOT ITEM 640, THE STANDARD CONSTRUCTION DRAWINGS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.

PROHIBITED CONSTRUCTION ACTIVITIES

- 1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE OWNER.
- 2. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.
- 3. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
- 4. DISPOSING OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, OR ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS. THE USE OF EXPLOSIVES WITHIN CITY LIMITS, UNLESS A PERMIT IS ISSUED BY THE CITY.
- 5. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATIONS OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR OUTSIDE THE EASEMENT LIMITS.
- 6. PUMPING OF SEDIMENT LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.
- 7. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, OR ANY OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MANMADE CHANNELS LEADING THERETO; PERMANENT OR UNSPECIFIED ALTERATION OF THE LOW LINE OF ANY STREAM.

RESTORATION

- 1. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REGRADED AND SEEDED AS PER CITY OF LORAIN CODIFIED ORDINANCE 1529, OHIO EPA STORMWATER REGULATIONS, AND ODOT ITEM 832.
- 2. HYDROSEEDING IS REQUIRED FROM MARCH 1ST THROUGH OCTOBER 30TH.
- 3. PAY LIMITS FOR TOPSOIL AND SEEDING AND MULCHING SHALL EXTEND FOUR (4) FEET BEHIND BACK OF CURB/EDGE OF PAVEMENT, UNLESS NOTED OTHERWISE. ANY RESTORATION OUTSIDE OF THESE LIMITS IS THE RESPONSIBILITY OF THE CONTRACTOR.

SIGNS

- 1. FURNISH AND ERECT SIGNS IN ACCORDANCE WITH ODOT ITEM 630, THE STANDARD CONSTRUCTION DRAWINGS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.
- 2. PROPOSED SIGNS SHALL MATCH THE CHARACTERISTICS OF AN EXISTING SIGN IF IT IS TO REMAIN WITHIN THE PROJECT LIMITS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THIS COORDINATION.

SURVEY

- 1. THE CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTS AND BENCHMARKS, PER ODOT 623.
- 2. MONUMENTS SHALL BE LEFT UNDISTURBED UNTIL THE CITY OF LORAIN ENGINEERING DEPARTMENT HAS CHECKED/VERIFIED THE REFERENCES PROVIDED BY THE CONTRACTOR'S SURVEYOR. IN ALL CASES THE CONTRACTOR SHALL CONTACT THE CITY OF LORAIN ENGINEERING DEPARTMENT AT 440-204-2003 NO LESS THAN TWO (2) WEEKS PRIOR TO THE DISTURBANCE OF ANY EXISTING MONUMENTS.
- 3. DISTURBED PRIVATE RIGHT-OF-WAY MONUMENTS ON OR OUTSIDE THE PROJECT RIGHT-OF-WAY LIMITS AND NOT ENCLOSED WITHIN A TEMPORARY EASEMENT FOR THE PROJECT SHALL BE RESET OR REPLACED AT THE CONTRACTOR'S EXPENSE. PRIVATE RIGHT-OF-WAY MONUMENTS WITHIN THE PROJECT RIGHT-OF-WAY/TEMPORARY EASEMENTS WHICH ARE UNAVOIDABLY DISPLACED OR DAMAGED DURING THE CONTRACT WORK SHALL BE RESET OR REPLACED ALL AT THE DETERMINATION/DIRECTION OF THE ENGINEER.

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200 West Erie Avenue Lorain, Ohio 44052
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NO.	DATE	REVISION	NO.	DATE	REVISION
9	01/01/2019				
10	06/20/2019	NO. 2 ADDED IN RESTORATION			
11	02/04/2020	NO. 3 IN RESTORATION REV.			
11	02/04/2020	PREV. NO. 3 IN SIGNS DELETED			
11	02/04/2020	NO. 1 IN SURVEY REVISED			
11	03/04/2020	RENUMBERED SURVEY NOTES			

STANDARD DESIGNS GENERAL GENERAL NOTES			
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			GN-2.4

UNDERGROUND

1. ALL NEW CONDUITS, INLET, CATCH BASINS, AND MANHOLES CONSTRUCTED AS PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.
2. ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.
3. ALL BACKFILL UNDER OR WITHIN THE ZONE OF INFLUENCE OF ROADS, DRIVES, SIDEWALKS, AND PARKING LOTS SHALL BE GRANULAR BACKFILL PER SPECIFICATIONS.
4. PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION.
5. THE COST FOR ALL ROCK EXCAVATION IS INCLUDED WITH THE PERTINENT BID ITEMS (PIPE, EXCAVATION FOR STRUCTURE, ETC). NO SEPARATE PAYMENT WILL BE MADE FOR ANY ROCK EXCAVATION. IF THE CONTRACTOR WANTS ADDITIONAL INFORMATION, THEY SHOULD COORDINATE WITH THE OWNER ANY BORINGS OR TEST PITS THEY INTEND TO COMPLETE.

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NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764.

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10/27/2015

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NONE

UTILITIES

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

OHIO EDISON CO.
NATALIE CAMP
6326 LAKE AVENUE
ELYRIA, OH 44035
PH: 440-326-3319
EMAIL: NCAMP@FIRSTENERGYCORP.COM

COLUMBIA GAS CO.
ADAM WOODIE
3101 NORTH RIDGE ROAD, EAST
LORAIN, OH 44055
PH: 440-240-6144
EMAIL: AWOODIE@NISOURCE.COM

CENTURY TELEPHONE
GERONIMO SALES
203 WEST NINTH STREET
LORAIN, OH 44052
PH: 440-244-8330
EMAIL: GERONIMO.O.SALES@CENTURYLINK.COM

SPECTRUM
MARTIN VAN KUREN
1801 ELYRIA AVENUE
LORAIN, OH 44052
PHONE: 216-854-0755
EMAIL: MARTY.VANKUREN@CHARTER.COM

CITY OF LORAIN
DEPARTMENT OF UTILITIES
1106 WEST 1ST STREET
LORAIN, OH 44052
SEWER - ROBERT CULP
PH: 440-204-2500
EMAIL: ROBERT_CULP@CITYOFLORAIN.ORG
WATER DISTRIBUTION - JIM MALICK
PH: 440-204-2285
EMAIL: JIM_MALICK@CITYOFLORAIN.ORG

OHIO UTILITIES PROTECTION SERVICE
PH: 800-362-2764 (OR 811)
WWW.OUPS.ORG

WOW CABLE
BOB HAMMOND
DIRECTOR, PLANT MAINTENANCE
PH: 440-606-6262
EMAIL: BOB.HAMMOND@WOWINC.COM

EVERSTREAM
ERIC LaCOURSE
1228 EUCLID AVE. SUITE 250
CLEVELAND, OH 44115
PH: 440-723-7341
EMAIL: ELACOURSE@EVERSTREAM.NET

2. THE SIZE AND LOCATION, BOTH HORIZONTAL AND VERTICAL, OF THE UNDERGROUND UTILITIES SHOWN IN THE CONTRACT DOCUMENTS HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS AS WELL AS FROM THE UTILITY OWNERS AS REQUIRED BY O.R.C. SECTION 153.64. THE CITY OF LORAIN DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES WITH THE PERTINENT UTILITY OWNER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN PROXIMITY OF UTILITIES.
3. SERVICE LINES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHOULD ASSUME ALL PROPERTIES HAVE WATER, SEWER, AND GAS SERVICE LINES. FIELD VERIFY THE LOCATION OF ALL SERVICES SHOWN AND NOT SHOWN.
4. WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE THE WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS OCCURRING ADJACENT TO THE POLE. THE COST AND COORDINATION FOR ANY REQUIRED PROTECTION, SUPPORT OR TEMPORARY RELOCATION OF EXISTING UTILITY POLES, STREET LIGHTS OR TRAFFIC LIGHTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE PROTECTION AND SUPPORT FOR ALL UTILITY POLES, STREET LIGHTS OR TRAFFIC POLES IN THE WORK AREA INCLUDING UTILITY POLES, STREET LIGHTS AND TRAFFIC POLES NOT SPECIFICALLY SHOWN ON THE PLANS TO REQUIRE TEMPORARY SUPPORT AND PROTECTION. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION, SUPPORT OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.
5. IN THE EVENT THAT IT IS NECESSARY, DURING CONSTRUCTION, TO REVISE THE ALIGNMENT OF A PROPOSED PIPE OR LOCATION OF APPURTENANCES DUE TO CONFLICTS WITH EXISTING UTILITIES, THE CONTRACT UNIT PRICE BID FOR THE ITEMS INVOLVED SHALL NOT BE CHANGED EXCEPT IN CASES OF UNUSUALLY LARGE OR EXTENSIVE REVISIONS WHEN IN THE OPINION OF THE ENGINEER, AND INCREASE OR DECREASE IN UNIT PRICE IS JUSTIFIED. ANY CHANGE IN THE UNIT PRICE BID MUST BE MUTUALLY AGREED UPON IN WRITING BEFORE THE WORK IS PERFORMED. OTHERWISE, THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.
6. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 24 HOURS IN ADVANCE OF INTERRUPTION OF EXISTING WATER OR SEWER SERVICES. EXISTING SERVICES SHALL NOT BE INTERRUPTED FOR MORE THAN 2 HOURS. THE CONTRACTOR WILL BE RESPONSIBLE FOR SHUTTING DOWN ANY EXISTING SERVICES AND FOR NOTIFYING PROPERTY OWNERS OF SERVICE DISRUPTIONS.

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STANDARD DESIGNS GENERAL GENERAL NOTES

NO.	DATE	REVISION	NO.	DATE	REVISION
6	06/20/2017				
7	01/01/2018				
9	01/01/2019				
10	06/20/2019				
11	02/04/2020	UPDATED UTILITY CONTACTS			
13	04/25/2022	UPDATED CONTACTS			

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GENERAL

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF LORAIN CODIFIED ORDINANCE 1529, OHIO EPA STORMWATER REGULATIONS, AND ODOT ITEM 832. ALL STORMWATER BEST MANAGEMENT PRACTICES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION. DEVELOPMENT SITES LESS THAN ONE (1) ACRE IN SIZE: ALL CONSTRUCTION ACTIVITY WITHIN THE CITY WITH LESS THAN ONE (1) ACRE IN SIZE OF DISTURBED AREA SHALL BE REQUIRED TO MAINTAIN COMPLIANCE WITH THE FOLLOWING MINIMUM STANDARDS:

1. CONSTRUCTION ENTRANCE: A CONSTRUCTION ENTRANCE INSTALLED AND MAINTAINED TO THE STANDARDS OF THE CURRENT OHIO DEPARTMENT OF NATURAL RESOURCES' RAINWATER AND LAND DEVELOPMENT MANUAL IS REQUIRED AT ALL ACCESS POINTS USED BY VEHICULAR TRAFFIC OR CONSTRUCTION EQUIPMENT.
2. INLET PROTECTION: CITY APPROVED INLET PROTECTION IS REQUIRED ON ALL EXISTING OR PROPOSED STORM SEWER INLETS IN THE VICINITY OF THE CONSTRUCTION SITE THAT MAY RECEIVE SITE RUNOFF.
3. PERIMETER CONTROL: MUST BE INSTALLED AND MAINTAINED ALONG THE EDGE OF THE CONSTRUCTION SITE TO PREVENT OR FILTER SURFACE RUNOFF LEAVING THE CONSTRUCTION SITE. THE TYPE OF PERIMETER CONTROL USED SHALL BE DETERMINED BASED ON SITE AND LOCATION.
4. SITE STABILIZATION: TEMPORARY AND PERMANENT STABILIZATION MUST BE IMPLEMENTED ON ALL SITES PER THE STANDARDS IN THE CURRENT STORM WATER DISCHARGES FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES - OHIO GENERAL NPDES PERMIT.
5. SPILL PREVENTION/CONTAINMENT: ALL SITES SHALL IMPLEMENT MEASURES FOR PREVENTING, CONTROLLING OR CONTAINING SPILLS OF FUEL, LUBRICANTS, TEMPORARY SANITARY TOILETS, OR OTHER POLLUTANTS AND PROTECTION POTENTIAL POLLUTANTS FROM CONTACT WITH PRECIPITATION OR RUNOFF.
6. STAGING AREA AND CONCRETE WASHOUT: ALL SITES MUST HAVE A CONTAINMENT AREA DESIGNATED FOR TRASH DISPOSAL, VEHICLE MAINTENANCE, MATERIAL STORAGE, AND CONCRETE WASHOUT. SHOULD THE USE OF A PREDEFINED BERMED CONTAINMENT AREA OR APPROVED WASHOUT DEVICE BE TECHNICALLY INFEASIBLE DUE TO THE PROJECT SIZE, THE DISPOSAL METHOD AND/OR LOCATION MUST BE PRE-APPROVED BY THE CITY ENGINEER OR HIS/HER DESIGNEE.
7. STREET SWEEPING: ALL PAVED SURFACES AFFECTED BY THE CONSTRUCTION SITE MUST BE SWEEPED AT THE END OF EACH WORK DAY AND DURING THE DAY AS NEEDED WHEN SEDIMENT AND OTHER MATERIALS ARE TRACED OR DISCHARGED INTO THEM. STREET WASHING SHALL BE ALLOWED ONLY AFTER SHOVELING OR SWEEPING HAS REMOVED MOST OF THE SEDIMENT AND APPROVED STORM SEWER INLET PROTECTION IS PROPERLY INSTALLED ,UNLESS END OF SEWER SEDIMENT PONDS EXIST AND ARE PROPERLY FUNCTIONING.

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STANDARD DESIGNS EROSION CONTROL GENERAL NOTES

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NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015				
9	01/01/2019				

TEMPORARY SEEDING SPECIFICATIONS

TEMPORARY SEEDING SPECIES SELECTION

<u>SEEDING DATES</u>	<u>SPECIES</u>	<u>LB./1000 FT2</u>	<u>LB./ACRE</u>
MARCH 1 TO AUGUST 15			
	OATS	3	128 (4 BUSHEL)
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYEGRASS	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	55
	PERENNIAL RYEGRASS	3.25	142
	CREeping RED FESCUE	0.4	17
	KENTUCKY BLUEGRASS	0.4	17
	OATS	3	128 (3 BUSHEL)
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40

AUGUST 16 TO NOVEMBER 1			
	RYE	3	112 (2 BUSHEL)
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	WHEAT	3	120 (2 BUSHEL)
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYE	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	40
	PERENNIAL RYEGRASS	3.25	40
	CREeping RED FESCUE	0.4	40
	KENTUCKY BLUEGRASS	0.4	

NOVEMBER 2 TO FEBRUARY 28

USE MULCH ONLY OR DORMANT SEEDING

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED.

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDS WITHIN 7 DAYS AFTER GRADING.
3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS—TEMPORARY VEGETATION SEEDING RATE SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
5. SEEDING METHOD—SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

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**STANDARD DESIGNS
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TEMPORARY SEEDING SPECIFICATIONS CONT'D.

MULCHING FOR TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH, WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.

2. MATERIALS: STRAW-IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 LBS./1,000 SQ. FT. (2-3 BALES).

HYDROSEEDERS-IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2000 LBS./AC. OR 46 LB./1,000 SQ. FT. OTHER-OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTING APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TON/AC.

3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS: MECHANICAL-A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT LEFT TO A LENGTH OF APPROXIMATELY 6 INCHES.

MULCH NETTING-NETTING SHALL BE USED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.

SYNTHETIC BINDERS-SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TRACK OR EQUIVALENT MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

WOOD-CELLULOSE FIBER-WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WT. OF 750 LB./AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL.

PERMANENT SEEDING SPECIFICATIONS

SITE PREPARATION

1. SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.

2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.

3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION

1. LIME-AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.

2. FERTILIZER-FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST IN PLACE OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 POUNDS PER 1,000-SQ. FT. OR 1000 POUNDS PER ACRE OF A 10-10-10 OR 12-12-12 ANALYSES.

3. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

SEEDING DATES AND SOIL CONDITIONS

SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

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**STANDARD DESIGNS
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NONE

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PERMANENT SEEDING SPECIFICATIONS CONT'D.

DORMANT SEEDING

1. SEEDING SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":
FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE SELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.

FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.

APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.

WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE.

MULCHING

1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS
STRAW-IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 POUNDS (TWO TO THREE BALES) PER 1,000-SQ. FT. THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY APPLIED SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.FT. SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.
HYDROSEEDERS-IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE APPLIED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
OTHER-OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTING OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.
3. STRAW AND MULCH ANCHORING METHODS
STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
MECHANICAL-A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES.
MULCH NETTING-NETTING SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
ASPHALT EMULSION-ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURE OR AT THE RATE OF 160 GALLONS PER ACRE.
SYNTHETIC BINDERS-SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.
WOOD CELLULOSE FIBER-WOOD CELLULOSE FIBER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 POUNDS CELLULOSE PER 100 GALLONS OF WATER.

IRRIGATION

PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.

IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF.

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PERMANENT SEEDING - TABLE 1

SEED MIX

SEEDING RATE

NOTES:

LBS./ACRE LBS./1,000 SQ. FT.

GENERAL USE

CREEPING RED FESCUE	20-40	1/2-1
DOMESTIC RYEGRASS	10-20	1/4-1/2
KENTUCKY BLUEGRASS	20-40	1/2-1
TALL FESCUE	40-50	1-1 1/4
TURF-TYPE (DWARF) FESCUE	90	2 1/4

FOR CLOSE MOWING & FOR WATERWAYS WITH
<2.0 FT/SEC VELOCITY

STEEP BANKS OR CUT SLOPES

TALL FESCUE	40-50	1-1 1/4
CROWN VETCH	10-20	1/4-1/2
TALL FESCUE	20-30	1/2-3/4
FLAT PEA	20-25	1/2-3/4
TALL FESCUE	20-30	1/2-3/4

DO NOT SEED LATER THAN AUGUST

DO NOT SEED LATER THAN AUGUST

ROAD DITCHES AND SWALES

TALL FESCUE	40-50	1-1 1/4
TURF-TYPE (DWARF) FESCUE	90	2 1/4
KENTUCKY BLUEGRASS	5	0.1

LAWNS

KENTUCKY BLUEGRASS	100-120	2
PERENNIAL RYEGRASS		2
KENTUCKY BLUEGRASS	100-120	2
CREEPING RED FESCUE		1-1/2

FOR SHADED AREAS

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

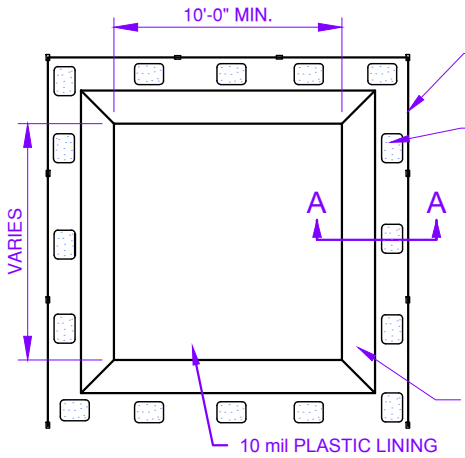
**STANDARD DESIGNS
EROSION CONTROL
GENERAL NOTES**

CAD FILE:
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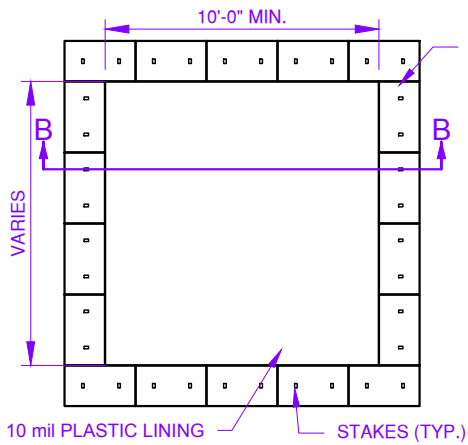
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ER-1.4

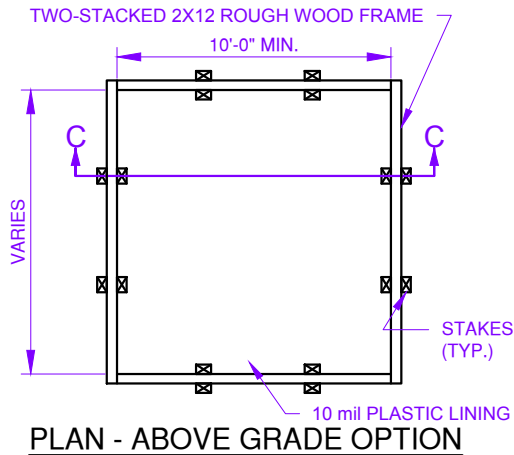
DRWN BY: EA	APPRVD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE
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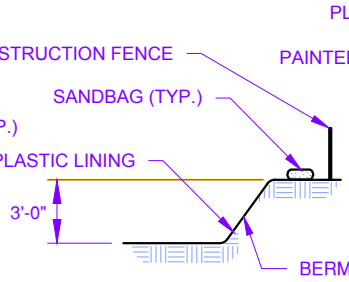
PLAN - BELOW GRADE OPTION



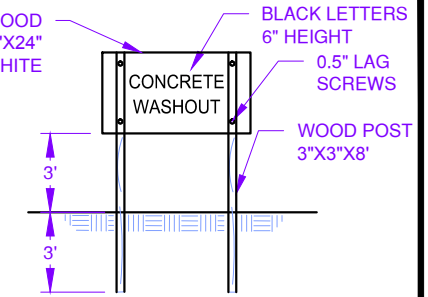
PLAN - ABOVE GRADE
W/ STRAW BALES OPTION



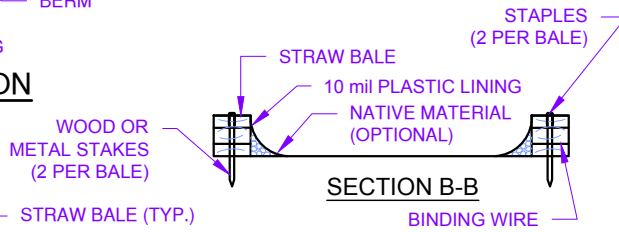
PLAN - ABOVE GRADE OPTION



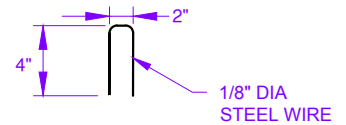
SECTION A-A



CONCRETE WASHOUT
SIGN DETAIL



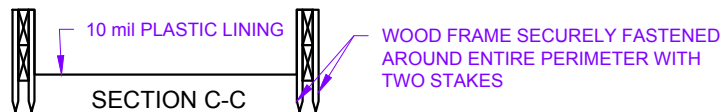
SECTION B-B



STAPLE DETAIL

CONCRETE WASHOUT AREA INSTALLATION NOTES:

1. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. THE CONCRETE WASHOUT AREA WILL BE CONSTRUCTED ABOVE GRADE OR BELOW GRADE AT THE OPTION OF THE CONTRACTOR. THE ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
3. THE CONCRETE WASHOUT AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE WASHOUT AREA MUST BE CLEANED, OR A NEW WASHOUT AREA MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
4. THE CONCRETE WASHOUT SIGN SHALL BE PLACED WITHIN 30' OF THE WASHOUT AREA. ADDITIONAL SIGNS SHOULD BE CONSTRUCTED AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. THE CONCRETE WASHOUT AREA SHALL BE LOCATED A MINIMUM OF 50' FROM STORM DRAIN INLETS, OPEN DISCHARGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHOULD BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS TO PREVENT DISTURBANCE OR TRACKING. VEHICLE TRACKING CONTROL IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO AREA IS OFF PAVEMENT.
6. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
7. WHEN THE CONCRETE WASHOUT AREA IS NO LONGER REQUIRED FOR WORK, THE HARDENED CONCRETE AND MATERIAL USED TO CONSTRUCT WASHOUT AREA SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE ENGINEER.



SECTION C-C

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS
EROSION CONTROL
CONCRETE WASHOUT AREA

CAD FILE:
ER-2.0.dwg

DRWN BY:
EA

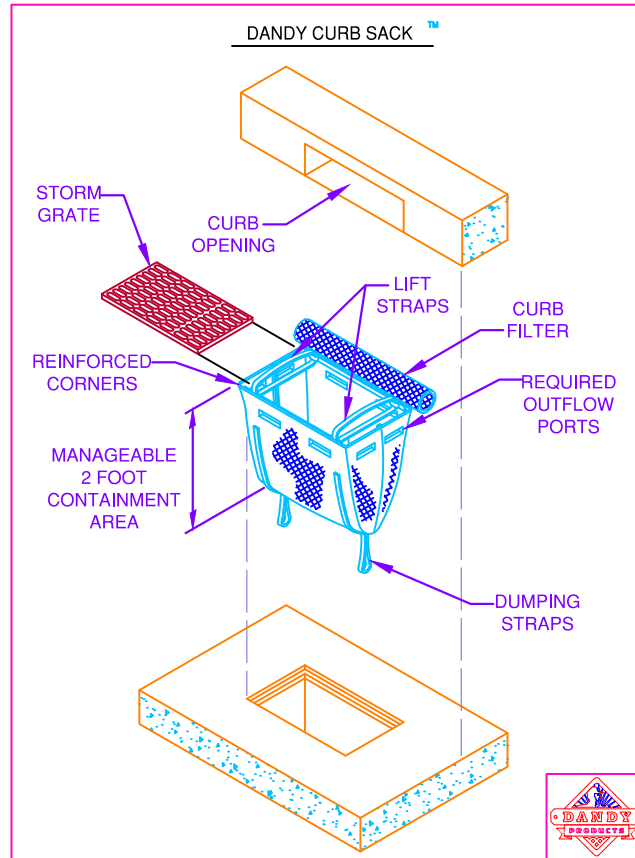
APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

ER-2.0



NOTE: THE DANDY CURB SACK™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW DANDY CURB SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m ² (gal/min/ft ²)	2852 (70)
Permittivity	ASTM D 4491	Sec ⁻¹	0.90

HI-FLOW DANDY CURB SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m ² (gal/min/ft ²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1

*NOTE: ALL DANDY SACKS™ CAN BE ORDERED WITH OUR OPTIONAL OIL ABSORBENT PILLOWS

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052

Phone: (440) 204-2003

**STANDARD DESIGNS
EROSION CONTROL
INLET PROTECTION WITH CURB**

CAD FILE:
ER-5.0.dwg

SHEET:

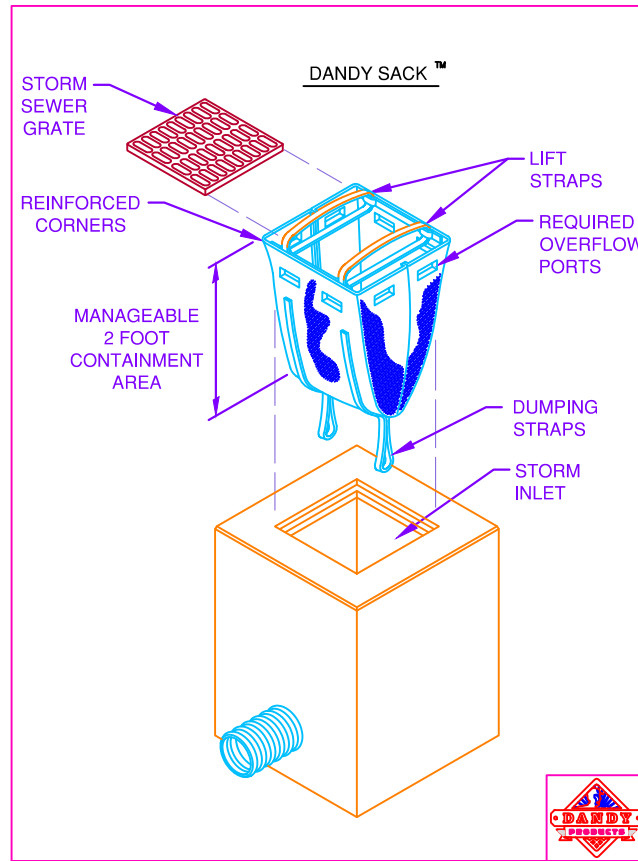
ER-5.0

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE



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Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
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UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
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Permittivity	ASTM D 4491	Sec ⁻¹	0.90

HI-FLOW DANDY CURB SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	1/min/m ² (gal/min/ft ²)	5907 (145)
Permittivity	ASTM D 4491	Sec ⁻¹	2.1

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

**STANDARD DESIGNS
EROSION CONTROL
INLET PROTECTION WITHOUT CURB**

CAD FILE:
ER-5.1.dwg

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

ER-5.1

FINAL BACKFILL:

UNDER OR WITHIN ZONE OF INFLUENCE OF PAVEMENT, DRIVEWAYS OR SIDEWALKS - COMPACTED ODOT NO. 8, NO. 9 OR 304 LIMESTONE GRANULAR MATERIAL IN 6" LIFTS NOT UNDER PAVEMENT - COMPACTED SUITABLE EXCAVATED MATERIAL CONTAINING NO REFUSE OR ORGANIC MATERIAL

INITIAL BACKFILL:

COMPACTED NO. 8 OR NO. 9 AGGREGATE LIMESTONE, ODOT 703.01 (ASTM D2321, CLASS I MATERIAL)

HAUNCHING:

COMPACTED NO. 8 OR NO. 9 AGGREGATE LIMESTONE, ODOT 703.01 (ASTM D2321, CLASS I MATERIAL) CARE MUST BE TAKEN TO ENSURE THAT SUFFICIENT MATERIAL HAS BEEN WORKED UNDER THE PIPE TO PREVENT VOIDS, HAUNCHING SHALL BE HAND PLACED & TAMPED IF DIRECTED

GRANULAR BEDDING:

COMPACTED NO. 8 OR NO. 9 AGGREGATE LIMESTONE, ODOT 703.01, (ASTM D2321, CLASS I MATERIAL)

FOUNDATION AGGREGATE:

COMPACTED NO. 1 & NO. 2 COARSE AGGREGATE LIMESTONE, ODOT 703.01 (AS REQUIRED TO REPLACE UNSUITABLE SOILS)

SURFACE RESTORATION
(SEE PAVEMENT REPLACEMENT
DETAILS FOR PAVED SURFACES)

12" MIN.

DIA./2

DIA./2

6" MIN.

AS DIRECTED BY ENGINEER

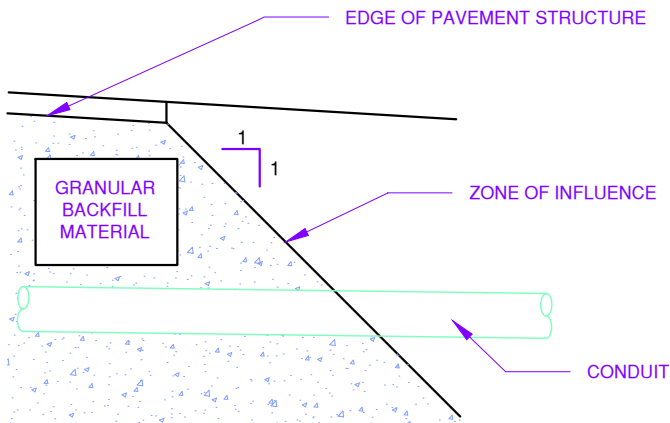
6" MIN

DIA.

6" MIN

DIA + 2" MAX. (PIPE DIA. 24" OR LESS)
DIA + 2'-6" MAX. (PIPE DIA. 24" TO 66")
DIA + 4" MAX. (PIPE DIA. 72" OR MORE)

EDGE OF PAVEMENT STRUCTURE



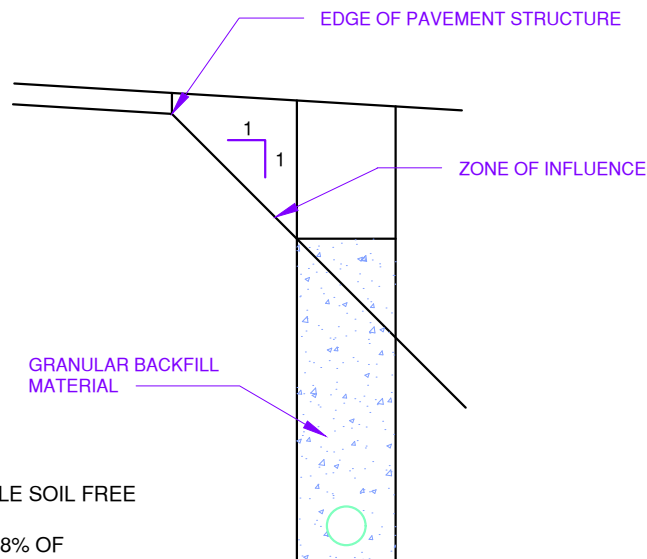
TRANSVERSE ZONE OF INFLUENCE

NOTES:

- SUITABLE EXCAVATED MATERIAL SHALL CONSIST OF LOOSE FRIABLE SOIL FREE OF DEBRIS AND COMPACTED IN 6" LIFTS.
- ALL PIPE BACKFILL SHALL BE TAMPED IN 6' LIFTS COMPACTED TO 98% OF STANDARD PROCTOR DENSITY.
- ALL TRENCHES THROUGH A STREAM OR WATERWAY SHALL BE APPROVED BY THE CITY ENGINEER BEFORE CONSTRUCTION.
- CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER PLAN OR AS DIRECTED BY THE ENGINEER.
- REFER TO GN 2.1 - GENERAL NOTE #25 FOR ADDITIONAL BACKFILL GUIDANCE.

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PARALLEL ZONE OF INFLUENCE

City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS
MISCELLANEOUS
ROADWAY TRENCH DETAIL

CAD FILE:

MS-1.0.dwg

SHEET:

MS-1.0

DRWN BY:

EA

APPRVD BY:

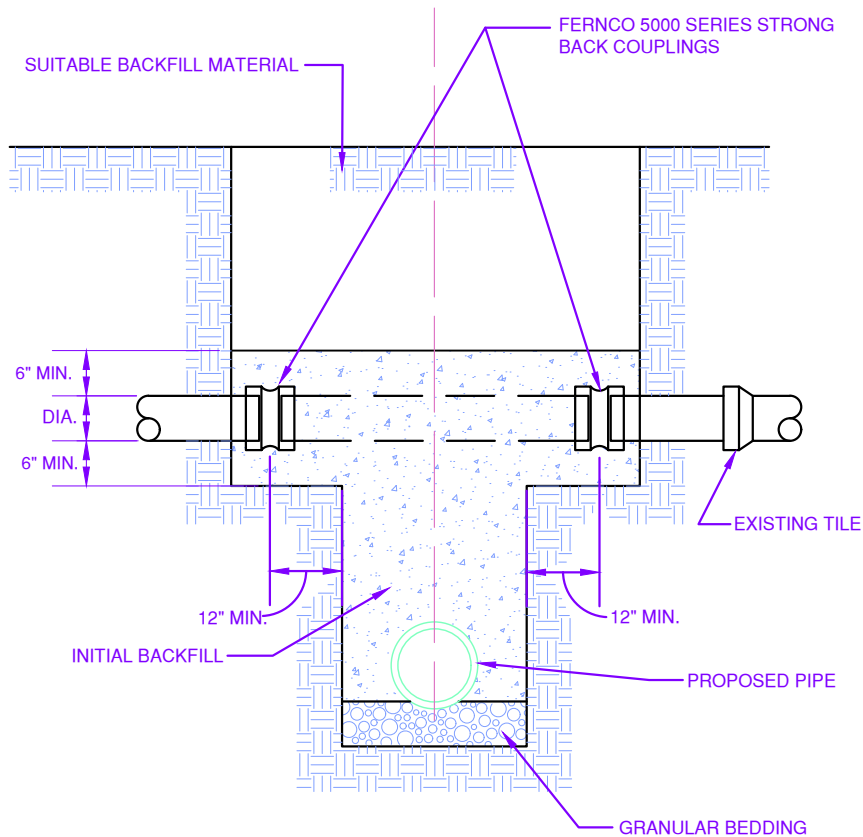
DV

ISSUE DATE:

08/19/2015

SCALE:

NONE



NOTES:

1. REFER TO MS-1.0 FOR TRENCH DETAIL

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

[illegible]

STANDARD DESIGNS MISCELLANEOUS TILE REPAIR DETAIL

CAD FILE:

MS-2.0.dwg

APPRVD BY:

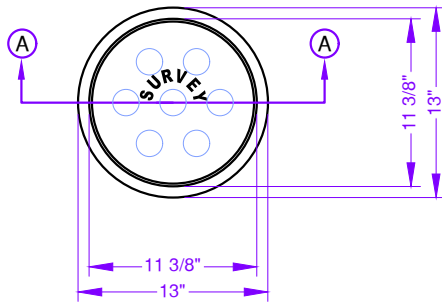
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SCALE:

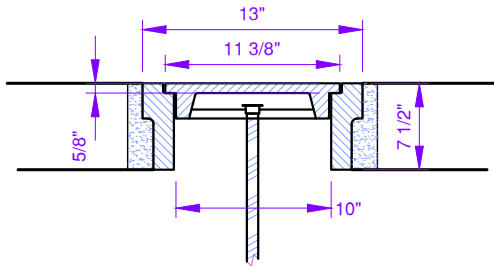
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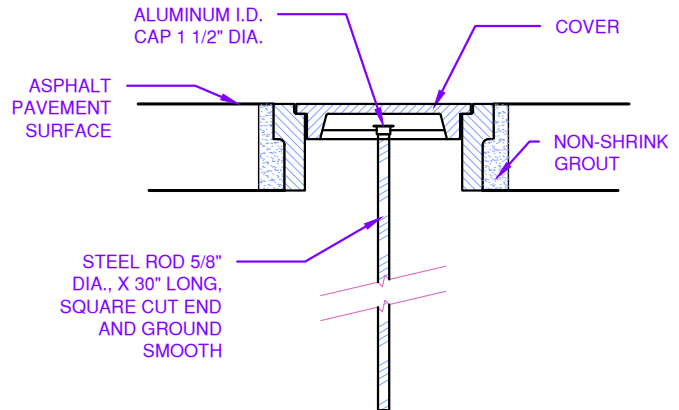
MS-2.0



TOP VIEW



SECTION A-A



SIDE VIEW

NOTES:

ACCEPTABLE MANUFACTURERS AND PRODUCTS ARE:

1. EJ CO.
P.O. BOX 439-301
EAST JORDAN, MI. 49727
EJ 1578 11 1/4" DIA.
2. NEENAH: R-1976
3. ALTERNATE PRODUCTS MAY BE SUBMITTED FOR APPROVAL.

INSTALLATION:

1. CORE OPENING IN PAVEMENT.
2. REMOVE DEBRIS AND PREPARE PAVEMENT FOR GROUT PER MANUFACTURERS INSTRUCTIONS.
3. COAT PAVEMENT OPENING AND EXTERIOR OF CASTING WITH GROUT.
4. INSTALL CASTING AND FINISH FLUSH WITH EXISTING PAVEMENT.
5. ANNULAR SPACE BETWEEN CASTING AND PAVEMENT TO BE FILLED WITH NON-SHRINK GROUT PER ODOT 705.20.

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

**STANDARD DESIGNS
MISCELLANEOUS
MONUMENT BOX ASSEMBLY**

CAD FILE:
MS-3.0.dwg

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

MS-3.0

NO.	DATE	REVISION	NO.	DATE	REVISION
10	6/20/2019	FILE PATH ADDED			
11	02/04/2020	NOTES NO. 1 CHANGED			
11	02/04/2020	NOTES NO. 2 ADDED			

GEODETIC SURVEY MARKER TO BE PLACED ON THE NE CORNER OF THE STREET ON WHICH WORK IS BEING PERFORMED. FINAL LOCATION TO BE DETERMINED BY ENGINEER.

MS-4.0

[illegible]

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GENERAL

1. COMPACTION OF TRENCHES IN THE RIGHT-OF-WAY IS REQUIRED FOR ALL UTILITIES. AREAS OF TIGHT EXCAVATION THAT DO NOT ALLOW FOR ODOT APPROVED COMPACTION DEVICES TO BE UTILIZED SHALL BE BACKFILLED WITH LOW STRENGTH MORTAR BACKFILL, TYPE 2 PER CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATION.
2. LIMESTONE SHALL BE USED FOR ALL AGGREGATE SUBBASE, FOR COARSE AGGREGATE IN ALL ASPHALT PAVEMENT SURFACE, AND FOR COARSE AGGREGATE IN CONCRETE.
3. NO VEHICULAR TRAFFIC SHALL BE PERMITTED ON A PREPARED AND APPROVED SUB-GRADE, SUB-BASE, OR PAVEMENT BASE.
4. ALL SAW CUTTING SHALL BE PERFORMED WITH A DIAMOND SAW BLADE AND INCLUDED FOR PAYMENT WITH THE COST OF THE PAVEMENT.
5. ANY ADJACENT FACILITIES DAMAGED AS RESULT OF THE CONTRACTOR'S NEGLIGENCE, AS DETERMINED BY THE ENGINEER, AND WHICH ARE NOT OTHERWISE DESIGNATED FOR REPLACEMENT, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. IT IS RECOMMENDED CONTRACTOR VERIFY EXISTING PAVEMENT THICKNESS AND SECTION MAKE-UP PRIOR TO BID.
7. BASE PAVEMENT REPAIRS SHALL BE COMPLETED ONLY IF DIRECTED BY ENGINEER AFTER MILLING OPERATIONS HAVE BEEN COMPLETED. THE ENGINEERING DEPARTMENT WILL MARK BASE REPAIR AREAS WITHIN 72 HOURS, WEATHER DEPENDENT, AFTER THE THE STREET HAS BEEN SWEPT.
8. CONTRACTOR IS RESPONSIBLE FOR THE DEWATERING OF ANY REPAIR AREAS PRIOR TO PLACEMENT OF NEW PAVEMENT (BASE PAVEMENT OR FINISHED PAVEMENT).
9. FURNISH ALL AGGREGATE DIRECTLY TO THE PROJECT FROM AN APPROVED SOURCE. ONLY LIMESTONE AGGREGATE SHALL BE PERMITTED FOR USE.
10. SUBGRADE COMPACTION SHALL BE INCIDENTAL TO AND INCLUDED FOR PAYMENT WITH ITEM 452-DRIVEWAY APRON AND ITEM 608-WALKS, CURB RAMPS, AND STEPS, RESPECTIVELY.
11. ALL BACKFILL UNDER OR WITHIN THE ZONE OF INFLUENCE OF ROADS, DRIVES, SIDEWALKS, AND PARKING LOTS SHALL BE GRANULAR BACKFILL PER SPECIFICATIONS.

ASPHALT

1. **GENERAL:** THE MECHANICAL SPREADING AND FINISHING EQUIPMENT SHALL CONSIST OF SELF-POWERED PAVERS, CAPABLE OF SPREADING AND FINISHING THE MIXTURE TO THE LINE, GRADE AND CROWN SET BY THE ENGINEER. THE THICKNESS OF THE COURSES SHALL BE VARIED BY THE CONTRACTOR, AS REQUIRED, SO THAT THE WORK WILL BE COMPLETED WITHIN THE QUANTITY OF MATERIAL SET UP ON THE PLANS AND PROPOSAL. THE ENGINEER, HOWEVER, RESERVES THE RIGHT TO REQUIRE CHANGES IN THE THICKNESS OF COURSES, WHERE, IN HIS OPINION, THE SAME IS REQUIRED TO CAUSE THE WORK TO BE COMPLETED WITHIN THE SAID QUANTITIES. THIS RESERVATION, ON PART OF THE ENGINEER, SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF PROPERLY REGULATING USE OF MATERIALS AS ABOVE SPECIFIED. OVER RUNS IN SAID QUANTITIES WILL ONLY BE CONSIDERED WHERE WRITTEN SUPPLEMENTARY CONTRACTS FOR ADDITIONAL AMOUNT HAVE BEEN AGREED UPON PRIOR TO EXECUTION OF THE WORK. THE GUTTER SHALL BE FINISHED TO THE TRUE GRADE. ANY IRREGULARITIES SHALL BE CORRECTED TO ENSURE PROPER DRAINAGE. A WATER TEST MAY BE USED TO LOCATE SPOTS IN GUTTER REQUIRING CORRECTION.
2. **SEALING GUTTERS AND EDGES:** THE WIDTH OF THE GUTTER OR EDGE SURFACE TO BE SEALED SHALL BE 4" WHERE THE SURFACE IS BOUNDED BY RAISED CURB OR EDGE SEALED WHERE A BERM EXISTS, IN ACCORDANCE WITH ODOT SPECIFICATIONS. THE EDGES OF ALL CASTINGS, FEATHERED EDGES AND WHERE NEW SURFACE MEETS OLD PAVEMENTS SHALL BE PAINTED WITH SUITABLE ASPHALT MATERIAL. THE GUTTER OR EDGE SHALL BE SEALED IMMEDIATELY AFTER THE SURFACE COURSE IS PLACED ON EACH STREET. THE EDGE SEAL IS INTENDED TO FILL ANY VOIDS.

(CONTINUED ON NEXT PAGE)

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Phone: (440) 204-2003

STANDARD DESIGNS PAVEMENT GENERAL NOTES

CAD FILE:

PV-1.0.dwg

SHEET:

PV-1.0

DRWN BY:

EA

APPRVD BY:

DV

ISSUE DATE:

02/06/2017

SCALE:

NONE

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ASPHALT, CONT'D

3. CLEANING OF PAVEMENT: THE STREET MUST BE SWEEPED PRIOR TO BASE REPAIR MARK OUTS. CLEANING OF THE PAVEMENT PRIOR TO PAVING SHALL BE ACCOMPLISHED BY A SELF-CONTAINED VACUUM/SWEEPER WITH WATER SPRAYER FOR DUST CONTROL. THIS EQUIPMENT SHALL CLEAN THE PAVEMENT THE DAY OF PAVING TO THE SATISFACTION OF THE INSPECTOR.
4. ASPHALT BINDER PRICE ADJUSTMENT: THE PROVISIONS OF ODOT C&MS 401.20, ASPHALT BINDER PRICE ADJUSTMENT IS NOT PART OF THIS CONTRACT. THE CONTRACTOR SHALL BID ACCORDINGLY.
5. SUBMITTAL OF ASPHALT TICKETS IS REQUIRED FOR PAYMENT OF ASPHALT ITEMS.
6. WARM MIX ASPHALT IS NOT PERMITTED. ONLY HOT MIX SHALL BE USED FOR SURFACE, INTERMEDIATE AND BASE COURSES.
7. ASPHALT TESTING SHALL INCLUDE BATCH PLANT, EXTRACTION/GRADATION AND FIELD TESTING OF ASPHALT INTERMEDIATE AND SURFACE COURSES UNDER THE FOLLOWING AVERAGE DAILY TRAFFIC (ADT) CONDITIONS:
ALL ADT CONDITIONS - CITY OF LORAIN PROJECT INSPECTOR SHALL PERFORM JMF REVIEW AND TEMPERATURE TESTING
500>ADT<5000 - AN INDEPENDENT OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CERTIFIED ASPHALT TESTING LABORATORY SHALL PERFORM FIELD DENSITY TESTING
ADT >5000 - AN INDEPENDENT OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CERTIFIED ASPHALT TESTING LABORATORY SHALL PERFORM FIELD DENSITY TESTING AND CORING.
8. RECLAIMED ASPHALT SHINGLES (RAS) ARE NOT PERMITTED IN ASPHALT PAVEMENT.
9. ITEM 441 - ASPHALT CONCRETE - ASPHALT CONCRETE SURFACE COURSE SHALL NOT EXCEED 10% RECLAIMED ASPHALT CONCRETE PAVEMENT (RAP) BY DRY WEIGHT. TOTAL VIRGIN ASPHALT BINDER CONTENT SHALL CONSIST OF A MINIMUM OF 6% FOR SURFACE COURSE. ALL AGGREGATE IN INTERMEDIATE AND SURFACE COURSE SHALL BE LIMESTONE.

PORTLAND CEMENT CONCRETE

1. USE CONCRETE MIX CLASS QC1P FOR ROADWAY PAVEMENT AND QC MS DRIVEWAY APRONS. QC FS SHALL NOT BE USED UNLESS AS DIRECTED BY ENGINEER.
2. SAWED AND HAND-FORMED JOINTS SHALL BE SEALED WITH CMS 705.04 JOINT SEALER.
3. PAVEMENT GUTTER REINFORCING STEEL (#5X30" TIE BAR) SHALL BE INSTALLED IN ACCORDANCE WITH ODOT SCD BP-2.1 AND INCLUDED FOR PAYMENT WITH THE CONCRETE PAVEMENT. CURB SHALL BE POURED INTEGRAL WITH HALF-LANE. CURB AND GUTTER SHALL NOT BE POURED SEPARATELY.
4. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
5. ALL DROPS FOR DRIVEWAY APRONS SHALL BE INCLUDED IN THE COST OF THE CURB.
6. KEYWAYS ARE NOT REQUIRED PER CITY OF LORAIN, ODOT ITEM 452.
7. EXISTING DRIVE APRON REMOVAL/REPLACEMENT- IT IS INTENDED THAT EXISTING DRIVE APRONS REMAIN UNDISTURBED DURING ANY ADJACENT INTEGRAL CONCRETE CURB AND PAVEMENT REMOVAL/REPLACEMENTS. REMOVAL OF ADJACENT INTEGRAL CONCRETE CURB AND PAVEMENT SHALL BE IN A MANNER THAT WILL NOT DISTURB, DAMAGE OR UNDERMINE THE ABUTTING DRIVE APRONS. SAW CUTS ALONG THE BACK OF CURB SHALL BE REQUIRED TO FACILITATE THE CURB AND PAVEMENT REMOVALS. DRIVE APRONS WHICH ARE UNAVOIDABLY DAMAGED DURING THE REMOVAL/REPLACEMENT OF ANY ADJACENT INTEGRAL CONCRETE CURB AND PAVEMENT SHALL BE REPLACED, IN KIND, TO THE NEAREST JOINT OR THE LIMITS ESTABLISHED/DIRECTED BY THE ENGINEER. EXCEPT AS OTHERWISE DIRECTED BY THE ENGINEER, THE CONFIGURATIONS OF ANY REPLACED DRIVE APRON AREAS SHALL CONFORM, AS NEARLY AS POSSIBLE, TO EXISTING CONFIGURATIONS. RESIDENTIAL DRIVES SHALL BE 6" THICK AND COMMERCIAL DRIVES AND ALLEYS SHALL BE 8" THICK. CONCRETE MIX CLASS "QC MS" SHALL BE USED FOR ITEM 452-DRIVEWAY APRON. THE CONTRACTOR SHALL NOTIFY EACH RESIDENT OF ANY RESTRICTED ACCESS TO THEIR PROPERTY NO LATER THAN ONE (1) WEEK IN ADVANCE. ACCESS TO ALL PROPERTY SHALL BE MAINTAINED AT ALL TIMES.

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NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764.

City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015		11	02/05/2020	ASPHALT HEADING REV.
2	02/12/2016		11	02/05/2020	PREV. NO. 6 REMOVED
7	01/01/2018		11	02/19/2020	NO. 3 REVISED
8	07/01/2018		11	03/03/2020	ASPH. TESTING REV.
9	01/01/2019				
10	06/20/2019	NO. 3 REVISED			

**STANDARD DESIGNS
PAVEMENT
GENERAL NOTES**

CAD FILE:

PV-1.1.dwg

SHEET:

DRWN BY:
EA

APPRVD BY:
DV

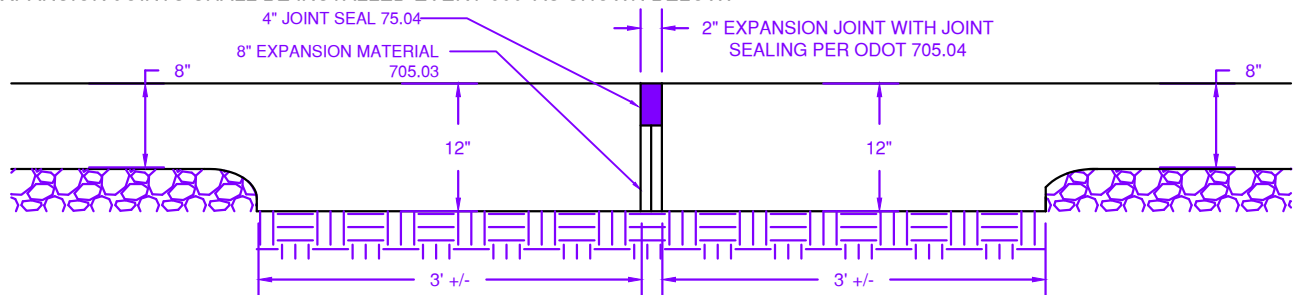
ISSUE DATE:
08/19/2015

SCALE:
NONE

PV-1.1

PORTLAND CEMENT CONCRETE, CONT'D

8. PARTIAL WIDTH CONSTRUCTION: POSITIVE DRAINAGE WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. THE INTENT OF THE METHOD REQUIRED TO REPLACE THIS PAVEMENT IS TO UTILIZE THE EXISTING ONE – HALF OF THE PAVEMENT TO PREVENT DAMAGE TO THE SUB-GRADE BY CONSTRUCTION TRAFFIC AND FOR RESIDENTS TO MAINTAIN REASONABLE PEDESTRIAN ACCESS TO THEIR RESIDENCE. THE CONTRACTOR IS REQUIRED TO KEEP OPEN ONE LANE OF TRAFFIC FOR USE BY RESIDENTS AND BUSINESSES AT ALL TIMES. THE EXISTING PAVEMENT WILL BE SAWED IN THE LONGITUDINAL DIRECTION TO ALLOW FOR HALF WIDTH REMOVAL. THE REMOVAL WIDTH WILL BE DETERMINED BY THE CONTRACTOR TO ALLOW FOR ACCESS FOR THEIR EQUIPMENT. THE REMOVAL AREA THEN IS TO BE EXCAVATED; SUB-GRADE COMPACTED BY APPROVED METHOD AND EQUIPMENT, AND ODOT #304 LIMESTONE PLACED AND COMPACTED, AS DIRECTED. CURB SHALL BE POURED INTEGRAL WITH HALF-LANE. CURB AND GUTTER SHALL NOT BE POURED SEPARATELY. ALL PERIMETER SAWING FOR REMOVAL AGAINST EXISTING PAVEMENT IS TO BE DIAMOND SAWED, OTHER TYPES OF SAWING IS PERMISSIBLE FOR REMOVAL OF INTERIOR MATERIAL TO BE REMOVED LATER. ALL SAWING IS INCIDENTAL TO THE PROJECT.
9. ITEM 499 CONCRETE - GENERAL: CONCRETE MIX DESIGNS SHALL BE LIMITED TO THE FOLLOWING CLASSES:
QC 1, QC 1-P, QC MS, QC MISC.
10. ITEM 499 - MS CONCRETE FOR LARGE AREAS: THE PROJECT ENGINEER MAY ALLOW MS CONCRETE IN PLACE OF QC1P AS REQUIRED ON THE PROJECT. THE MIX DESIGN FOR THIS WELL GRADED QCMS IS AS FOLLOWS: (WEIGHTS ARE APPROXIMATE)
TYPE 1 - 800 LBS
WATER - 312 LBS
#57 - 1347 LBS
#8 - 165 LBS
SAND - 1190 LBS
AIR - 6%
11. CONCRETE STRENGTH: CLASS QC1 AND QC1P SHALL ATTAIN A MODULUS OF RUPTURE OF 600 POUNDS PER SQUARE INCH (2.8 MPa) WITHIN 5 DAYS. CITY OF LORAIN INSPECTORS WILL PREPARE TWO (2) BEAM SPECIMENS FOR EACH CONCRETE PLACEMENT. THE INSPECTOR WILL TEST ONE (1) BEAM SPECIMEN AFTER 5 DAYS OF CURE. IF THE TESTED BEAM SPECIMEN FAILS TO ATTAIN THE REQUIRED STRENGTH OF 600 PSI WITHIN 5 DAYS, THUS PROHIBITING THE CONCRETE PAVEMENT FROM BEING OPENED TO TRAFFIC, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF 10% OF THE CONTRACT BID ITEM AND ASSOCIATED QUANTITY THAT CONTAINED THE STRENGTH DEFICIENCY. LIQUIDATED DAMAGES WILL INCREASE 10% PER CALENDAR DAY THEREAFTER NOT TO EXCEED 50% OF THE CONTRACT BID ITEM AND ASSOCIATED QUANTITY CONTAINING THE DEFICIENCY. AFTER 5 DAYS, THE CONTRACTOR MAY TAKE POSSESSION OF THE SECOND BEAM SPECIMEN FOR ADDITIONAL TESTING BY AN ODOT PREQUALIFIED LABORATORY AT NO ADDITIONAL COST TO THE CITY. UPON USE OF THE SECOND BEAM SPECIMEN, IF FURTHER SPECIMENS ARE REQUIRED TO TEST CONCRETE STRENGTH THE CONTRACTOR MAY OBTAIN PAVEMENT CORES FROM THE PAVEMENT SECTION CONTAINING THE DEFICIENCY. ALL COSTS RELATED TO ACQUIRING THE PAVEMENT CORES, INCLUDING BUT NOT LIMITED TO REMOVAL, TESTING, REPLACEMENT AND RESTORATION, SHALL BE AT THE COST OF THE CONTRACTOR. IF THE DEFICIENCY REMAINS AFTER TWENTY EIGHT (28) DAYS, THE CONTRACTOR SHALL REMOVE AND REPLACE THE AFFECTED CONCRETE PAVEMENT AT NO ADDITIONAL COST TO THE CITY. THE AFOREMENTIONED CONCRETE STRENGTH REQUIREMENTS AND LIQUIDATED DAMAGES SHALL BE APPLICABLE TO ALL FUTURE REPLACEMENTS OF THE CONCRETE PAVEMENT SECTIONS CONTAINING THE ORIGINAL DEFICIENCIES. IF AT ANY TIME THE CONCRETE STRENGTH REQUIREMENTS ARE SATISFACTORILY MET AND THE CONTRACTOR FAILS TO OPEN THE CONCRETE PAVEMENT TO TRAFFIC BY THE END OF THE WORK DAY, THE CONTRACTOR SHALL INCUR LIQUIDATED DAMAGES AS STATED ABOVE.
12. EXPANSION JOINTS SHALL BE INSTALLED EVERY 500' AS SHOWN BELOW:



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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

NO.	DATE	REVISION	NO.	DATE	REVISION
7	01/01/2018		11	03/04/2020	NO. 10 REVISED
8	07/01/2018				
9	01/01/2019				
10	06/20/2019	NO. 11 ADDED			
11	02/19/2020	NO. 8 REVISED			
11	02/21/2020	EXP. JOINT DETAIL REV.			

STANDARD DESIGNS PAVEMENT GENERAL NOTES

CAD FILE:

PV-1.2.dwg

SHEET:

DRAWN BY:

RS

APPROVED BY:

DV

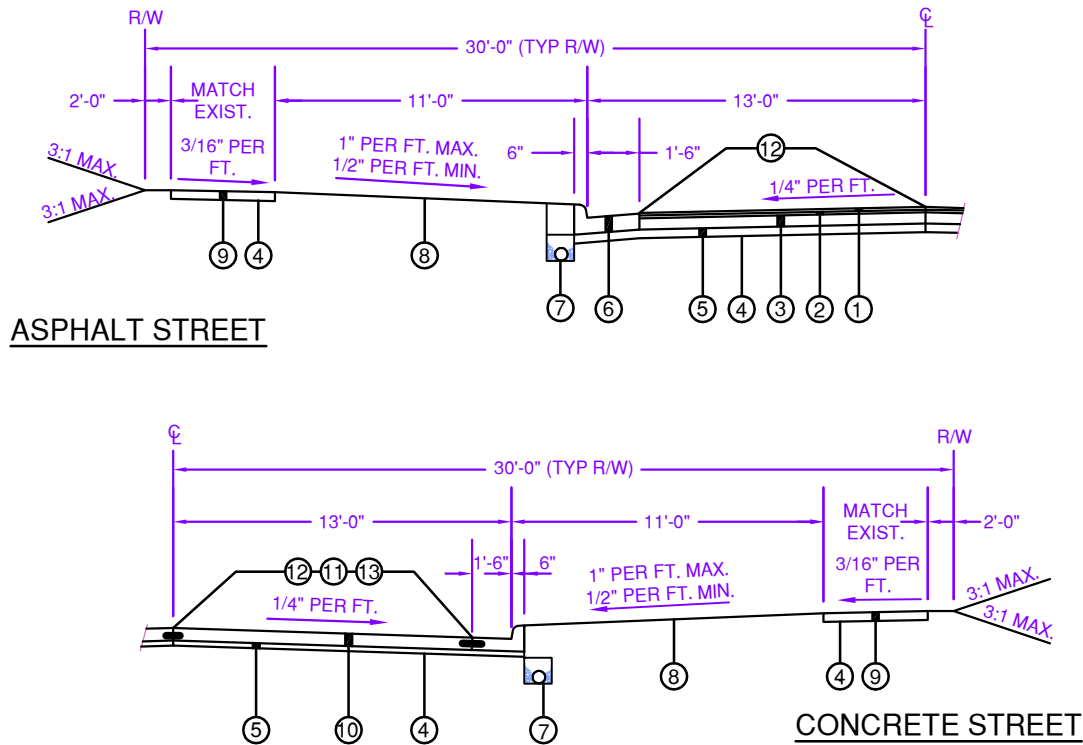
ISSUE DATE:

10/27/2015

SCALE:

NONE

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LEGEND

- | | | | | | |
|------------|--------|---|----------------------|----|--|
| ① ITEM 441 | 1-1/4" | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 (10% RAP MAX) | ⑧ ITEM 659 | | SEEDING AND MULCHING |
| ② ITEM 441 | 1-3/4" | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22 (35% RAP MAX.) | ⑨ ITEM 608 | 4" | CONCRETE SIDEWALK 6" DRIVE APPROACH AND 6" SIDEWALK BEHIND APPROACH, 6" CURB RAMPS |
| ③ ITEM 301 | 9" | ASPHALT CONCRETE BASE | ⑩ ITEM 452 | 8" | PLAIN PORTLAND CEMENT CONCRETE PAVEMENT WITH TYPE 2A INTEGRAL CURB, CLASS QC 1 |
| ④ ITEM 204 | * | SUBGRADE COMPACTION AND PROOF ROLLING | ⑪ ITEM 451.09 | | LONGITUDINAL & TRANSVERSE JOINTS PER ODOT SCD BP-2.1 AND 2.2; SAW CUT TRANSVERSE JOINTS ON 15' CENTERS AND AT RE-ENTRY CORNERS; #5 X 30" TIE BAR @ 30" C/C FOR LONGITUDINAL JOINTS |
| ⑤ SUBBASE: | | | ⑫ ITEM 451.16/705.04 | | JOINT SEALING; LONGITUDINAL, TRANSVERSE AND CURB & GUTTER JOINTS; 2" TO 4" BAND WHEN SEALING ASPHALT. |
| ASPHALT | 4" | 304 LIMESTONE | ⑬ ITEM 451.09 | | PAVEMENT GUTTER REINFORCING STEEL; SAW CUT; #5 X 30" TIE BAR @ 30" C/C PER ODOT SCD BP-2.1 |
| CONCRETE | 3" | 304 LIMESTONE | | | |
| ⑥ ITEM 609 | 24" | COMBINATION CURB & GUTTER; MODIFIED TYPE 2, CLASS QC 1 | | | |
| ⑦ ITEM 605 | 4" | UNDERDRAINS (SEE DETAIL PV-3.0) | | | |

NOTES

* WHERE GRANULAR FILL IS USED TO REPLACE SOFT SUBBASE AREAS, EXTEND CUT AND GRANULAR TO UNDERDRAIN.

- VERTICAL 6" CURB ROADWAY STANDARDS ARE AS FOLLOWS: TRAVEL LANE = 26' MINIMUM. BOC TO BOC 27' MINIMUM.
- ROLLED 4" CURB ROADWAY STANDARDS ARE AS FOLLOWS: TRAVEL LANE = 26" MINIMUM. BOC TO BOC 27' 4" MINIMUM.
- ADDITIONAL CURB DESIGNS CAN BE FOUND ON PV 5.0 AND PV 5.1.
- CONCRETE SPECIFICATIONS: QC1P: ROADWAY; QCMS: BOXOUTS, DRIVEWAYS, SIDEWALK WITHIN DRIVEWAY; QC1 OR QC MISC: WALK AND CURB RAMPS.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain
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STANDARD DESIGNS PAVEMENT TYPICAL STREET-RESIDENTIAL

NO.	DATE	REVISION	NO.	DATE	REVISION
2	02/12/2016		11	03/04/2020	LEGEND NO. 12 REV.
4	04/18/2017		13	04/26/2022	CROSS SLOPE REV.
7	01/01/2018		13	07/28/2022	CONC. SUBBASE DEPTH
10	06/20/2019	NO. 4 CHANGED			
11	02/05/2020	DETAIL NO. 12 REVISED			
11	02/12/2020	SIDEWALK WIDTH REV.			

CAD FILE:
PV-2.0.dwg

DRWN BY:
EA

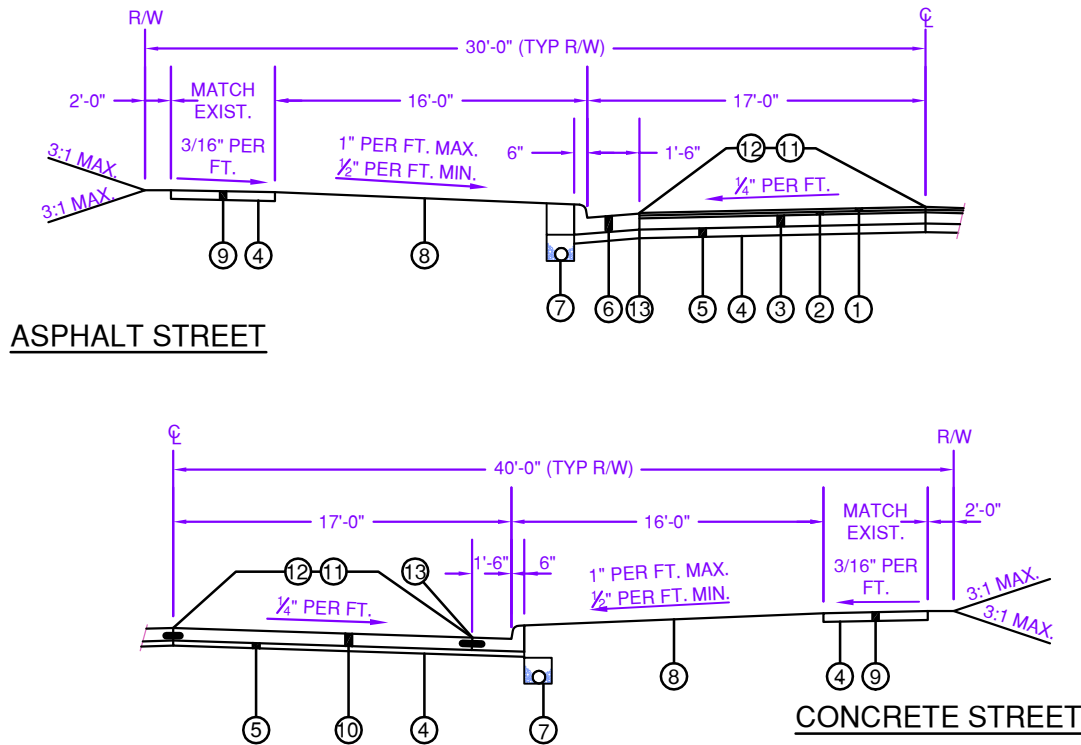
APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

PV-2.0



LEGEND

- | | | | | | | |
|---|----------|--------|---|---|--------------------|--|
| ① | ITEM 441 | 1-1/4" | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 (10% RAP MAX) | ⑧ | ITEM 659 | SEEDING AND MULCHING |
| ② | ITEM 441 | 1-3/4" | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22 (35% RAP MAX.) | ⑨ | ITEM 608 | 4" CONCRETE SIDEWALK 6" DRIVE APPROACH AND 6" SIDEWALK BEHIND APPROACH, 6" CURB RAMPS |
| ③ | ITEM 301 | 9" | ASPHALT CONCRETE BASE | ⑩ | ITEM 451 | 10" REINFORCED CONCRETE PAVEMENT WITH INTEGRAL CURB; TYPE 2A, CLASS QC 1. MIN. REINFORCEMENT WWF 6X6 - W4 X W4 WELDED WIRE MESH OR APPROVED FIBER. |
| ④ | ITEM 204 | * | SUBGRADE COMPACTION AND PROOF ROLLING | ⑪ | ITEM 451.09 | LONGITUDINAL & TRANSVERSE JOINTS PER ODOT SCD BP-2.1 AND 2.2; SAW CUT TRANSVERSE JOINTS ON 15' CENTERS AND AT RE-ENTRY CORNERS; #5 X 30" TIE BAR @ 30" C/C FOR LONGITUDINAL JOINTS |
| ⑤ | SUBBASE: | | | ⑫ | ITEM 451.16/705.04 | JOINT SEALING; LONGITUDINAL, TRANSVERSE AND CURB & GUTTER JOINTS; 2" TO 4" BAND WHEN SEALING ASPHALT. |
| | ASPHALT | 4" | 304 LESTONE | ⑬ | ITEM 451.09 | PAVEMENT GUTTER REINFORCING STEEL; SAW CUT; #5 X 30" TIE BAR @ 30" C/C PER ODOT SCD BP-2.1 |
| | CONCRETE | 3" | 304 LESTONE | | | |
| ⑥ | ITEM 609 | 24" | COMBINATION CURB & GUTTER; MODIFIED TYPE 2, CLASS QC 1 | | | |
| ⑦ | ITEM 605 | 4" | UNDERDRAINS (SEE DETAIL PV-3.0) | | | |

NOTES

* WHERE GRANULAR FILL IS USED TO REPLACE SOFT SUBBASE AREAS, EXTEND CUT AND GRANULAR TO UNDERDRAIN.

1. VERTICAL 6" CURB ROADWAY STANDARDS ARE AS FOLLOWS: TRAVEL LANE = 26' MINIMUM. BOC TO BOC 27' MINIMUM.
2. ROLLED 4" CURB ROADWAY STANDARDS ARE AS FOLLOWS: TRAVEL LANE = 26" MINIMUM. BOC TO BOC 27' 4" MINIMUM.
3. ADDITIONAL CURB DESIGNS CAN BE FOUND ON PV 5.0 AND PV 5.1.
4. CONCRETE SPECIFICATIONS: QC1P: ROADWAY; QCMS: BOXOUTS, DRIVEWAYS, SIDEWALK WITHIN DRIVEWAY; QC1 OR QC MISC: WALK AND CURB RAMPS.

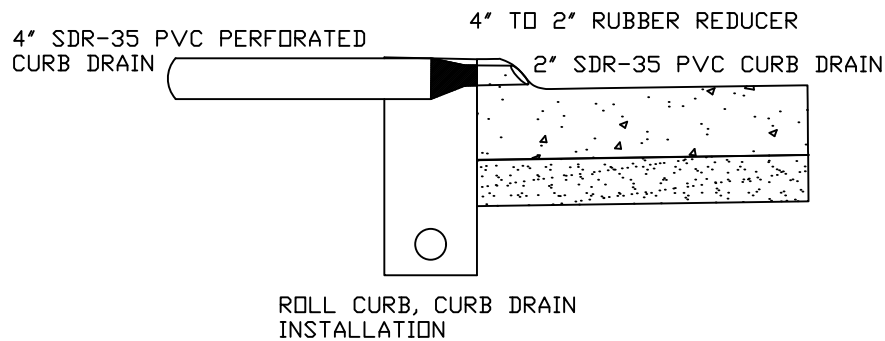
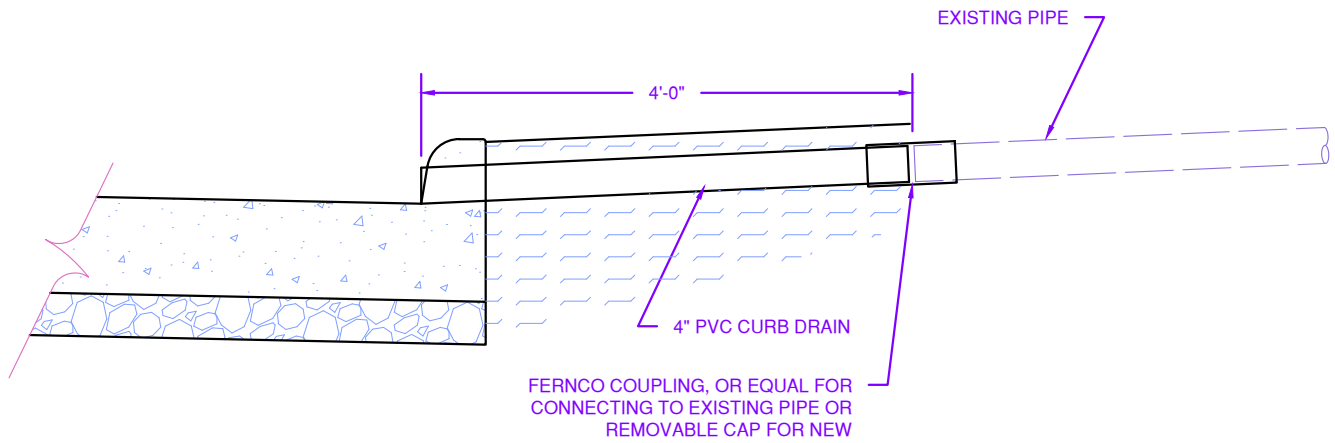
NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBER AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764

City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

NO.	DATE	REVISION	NO.	DATE	REVISION
2	02/12/2016		11	03/04/2020	LEGEND NO. 12 REV.
4	04/18/2017		13	04/26/2022	CROSS SLOPE REV.
7	01/01/2018		13	07/28/2022	CONC. SUBBASE DEPTH
10	06/20/2019	NO. 4 CHANGED			
11	02/05/2020	DETAIL NO. 12 REVISED			
11	02/12/2020	SIDEWALK WIDTH REV.			

STANDARD DESIGNS PAVEMENT TYPICAL STREET-INDUSTRIAL/COMMERCIAL			
CAD FILE: PV-2.1.dwg		SHEET: PV-2.1	
DRWN BY: EA	APPRD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE



NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764 AND O.G.P.U.P.S. @ (800) 925-0988.

City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

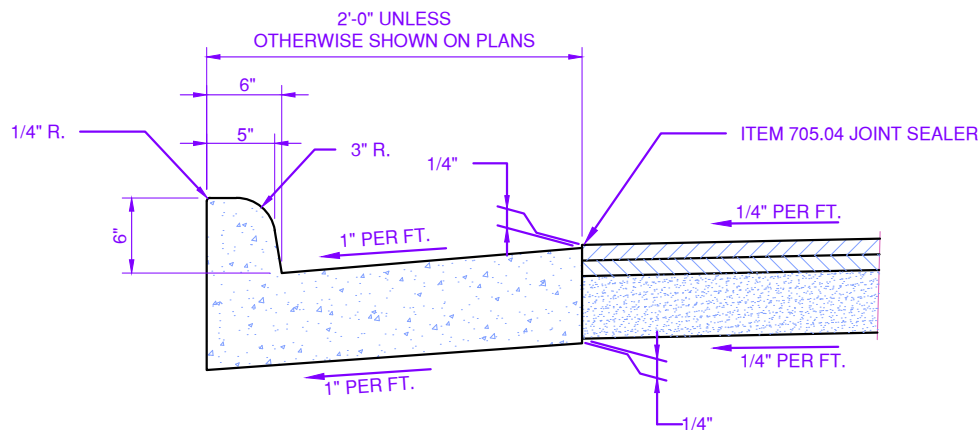
**STANDARD DESIGNS
PAVEMENT
DRAIN THRU CURB DETAIL**

CAD FILE:
PV-4.0.dwg

SHEET:

PV-4.0

DRWN BY: EA	APPRVD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE
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**MODIFIED TYPE 2 CURB & GUTTER
FOR ASPHALT PAVEMENT**

NOTES:

GENERAL: THIS DRAWING SHOWS MODIFIED TYPES OF CURB THAT MAY BE USED ON VARIOUS TYPES OF PAVEMENT. THE CONTRACT DOCUMENTS SPECIFY THE CURB TYPE TO BE USED. ALL OTHER CURBS SHALL BE IN ACCORDANCE WITH ODOT SCD BP-5.1.

JOINTS: 1" [25] EXPANSION JOINTS SHALL EXTEND UP TO THE TOP OF THE CURB AND SHALL BE CONSTRUCTED IN THE CURB AND GUTTER SECTION IN SUCH A MANNER THAT THE JOINT SEAL WILL EXTEND THE FULL WIDTH OF THE GUTTER AND INTO THE CURB FACE A SUFFICIENT DISTANCE TO SEAL THE JOINT TO AN ELEVATION OF AT LEAST 2" [50] ABOVE THE FLOW LINE OF THE GUTTER. DOWEL BARS SHALL BE USED IN THE CURB AND GUTTER SECTION AT EXPANSION JOINTS AND TO THE SURFACE OF THE PAVEMENT. TRANSVERSE EXPANSION JOINT MATERIAL SHALL MEET THE REQUIREMENTS OF ITEM 705.03. EXPANSION JOINT MATERIAL SHALL BE GROUND DOWN AS NECESSARY TO PERMIT SEALING OF JOINTS WITH CMS 705.04 JOINT SEALER.

GUTTER PLATE THICKNESS: THICKNESS OF GUTTER PLATE "T" SHALL BE 9" [230] UNLESS OTHERWISE SHOWN ON THE PLANS.

TOLERANCES: DIMENSIONAL TOLERANCES ARE AS FOLLOWS:

CURBS: $-\frac{1}{32}$ " TO $+\frac{1}{4}$ " [-1 TO +5]

GUTTERS: 0 TO $+\frac{1}{2}$ " [0 TO +12].

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

**STANDARD DESIGNS
PAVEMENT
CURB DETAIL**

CAD FILE:

PV-5.0.dwg

SHEET:

PV-5.0

DRWN BY:

EA

APPRVD BY:

DV

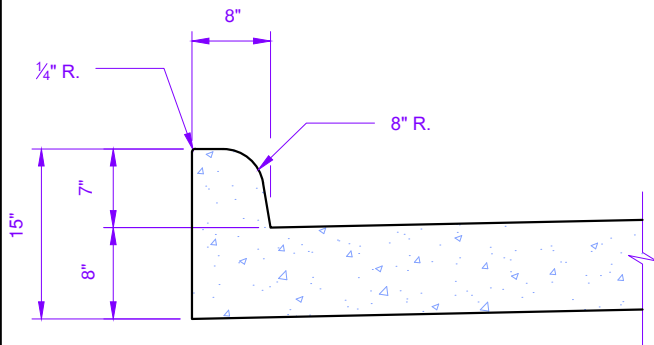
ISSUE DATE:

08/19/2015

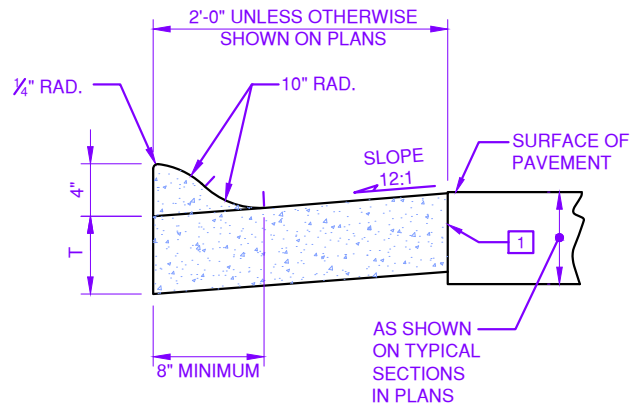
SCALE:

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MODIFIED TYPE 2-A
INTEGRAL CURB

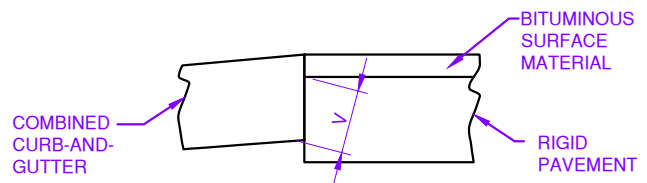


MODIFIED TYPE 3

FOR ADDITIONAL CURB DETAILS, SEE ODOT SCD BP-5.1.

LEGEND

- 1** BUTT JOINTS SHALL BE PROVIDED BETWEEN COMBINED CURB-AND-GUTTER AND NEW OR EXISTING RIGID PAVEMENTS, WITH TIE BARS OR HOOK BOLTS PROVIDED AT INTERVALS OF 5' [1.5 M]. SEE SCD BP-2.1 FOR DETAILS OF TIE BARS AND HOOK BOLTS. IF THE COMBINED CURB-AND-GUTTER ADJOINS A NEW RIGID BASE OR AN EXISTING RIGID BASE OR PAVEMENT THAT IS TO BE SURFACED WITH BITUMINOUS MATERIAL, A BUTT JOINT SHALL ALSO BE PROVIDED. HOWEVER, TIE BARS OR HOOK BOLTS SHALL BE OMITTED WHEN THE VERTICAL OVERLAP ("V" IN DETAIL RIGHT) BETWEEN THE CURB-AND-GUTTER AND RIGID PAVEMENT IS LESS THAN 7" [175].



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NO.	DATE	REVISION	NO.	DATE	REVISION
1	04/18/2017				
11	02/05/2020	ADDED CURB NOTE			

STANDARD DESIGNS
PAVEMENT
CURB DETAILS

CAD FILE:
PV-5.1.dwg

DRWN BY:
EA

APPRVD BY:
DV

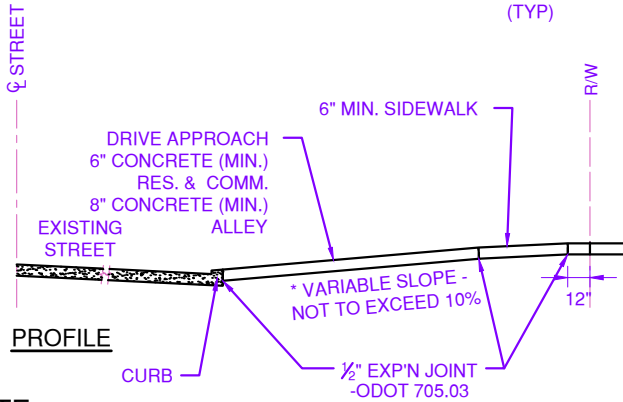
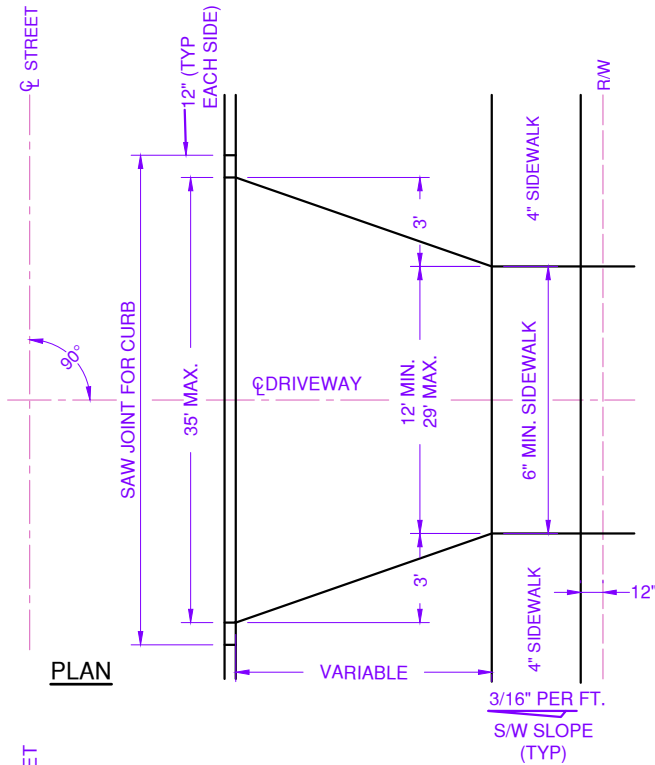
ISSUE DATE:
08/19/2015

SCALE:
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SHEET:

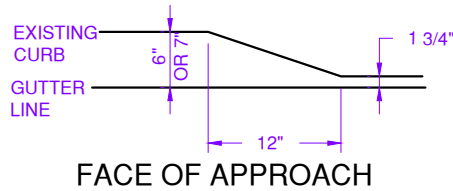
PV-5.1

IMPROVED STREET

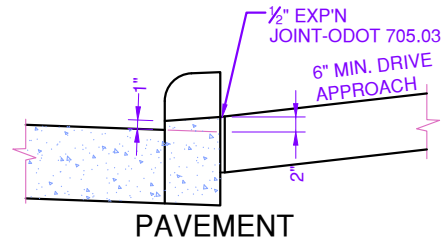
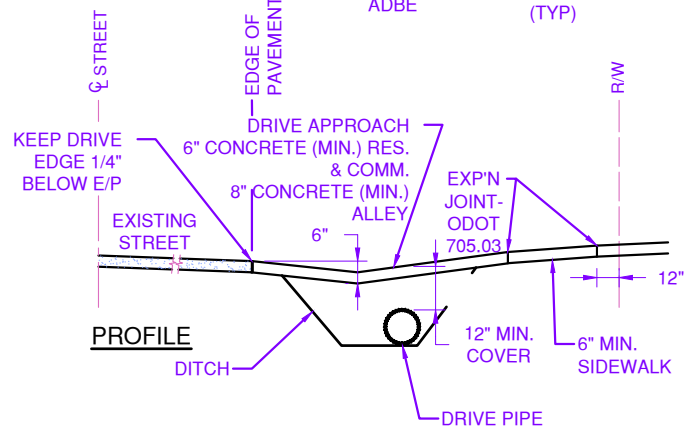
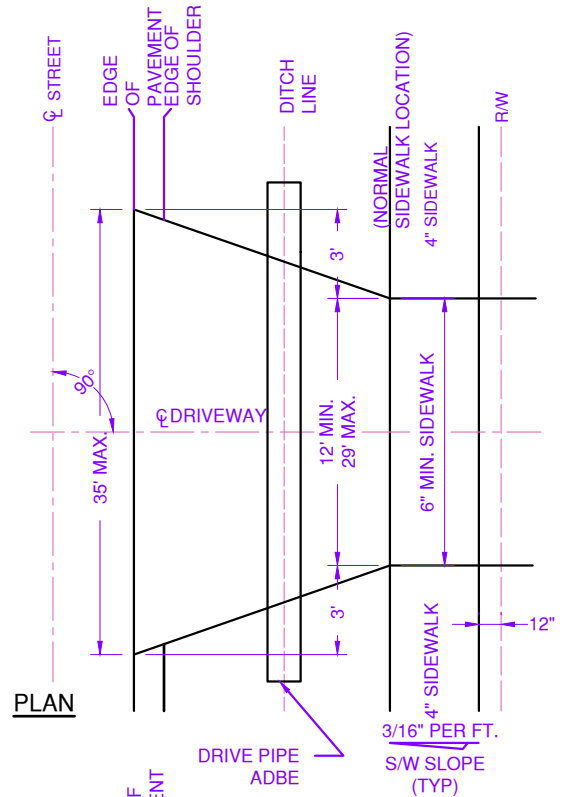


NOTE:

FOR APRON FINISHING REFER TO PV-12.2 AND ODOT 608.03



UNIMPROVED STREET



NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764.

City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS PAVEMENT DRIVE APPROACH DETAILS

CAD FILE:
PV-6.0.dwg

DRWN BY:
EA

APPRD BY:
DV

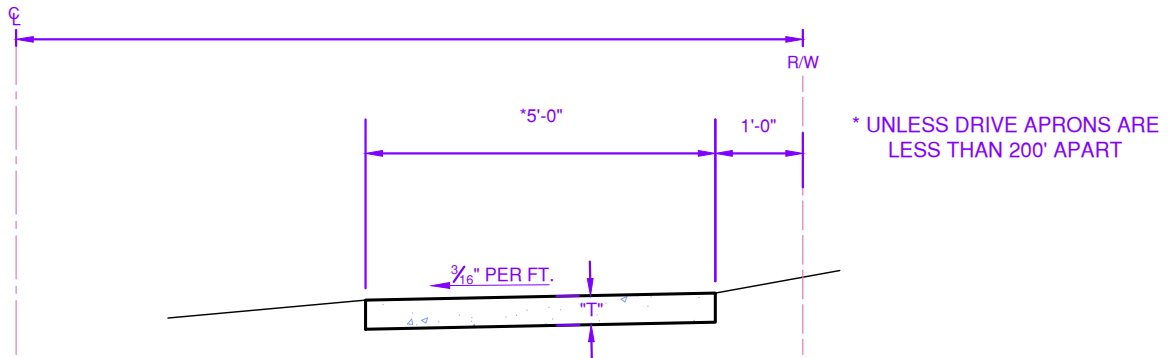
ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

PV-6.0

NO.	DATE	REVISION	NO.	DATE	REVISION
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11	02/21/2020	DETAILS REV.			
13	04/26/2022	CROSS SLOPE REV.			

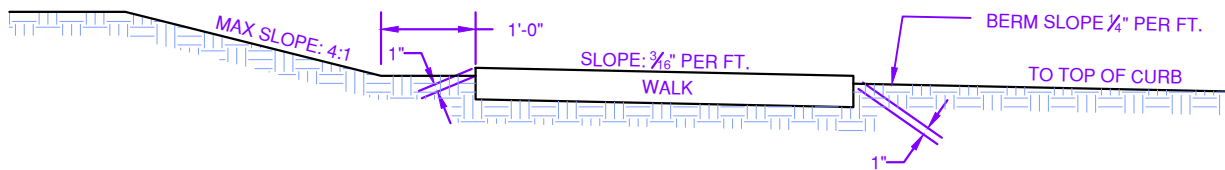


STANDARD SIDEWALK RESIDENTIAL/COMMERCIAL

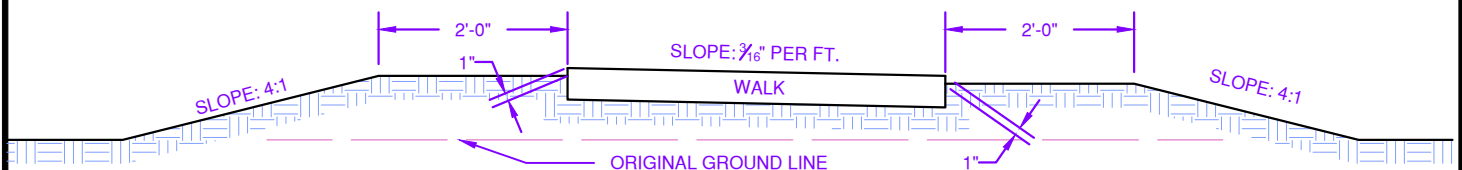
"T" = 4" MIN. FOR STANDARD WALKS
 "T" = 6" MIN. FOR WALKS ACROSS RES. & COMM. DRIVES
 "T" = 8" MIN. FOR WALKS ACROSS ALLEYS

NOTES:

1. ALL CONCRETE SHALL BE 4000 PSI ODOT CLASS QC MISC WITH AIR-ENTRAINING ADMIXTURE.
2. A "V" SHALL BE TOOLED INTO THE CONCRETE AT EACH WATER CURB BOX LOCATION.
3. SIDEWALK FINISHING - REFER TO PV-12.2
4. FOR ADA RAMP; REFER TO ODOT B.P.-7.1 FOR PREFERRED CONSTRUCTION PLACEMENT OF PERPENDICULAR CURB RAMPS.



TYPICAL GRADING SECTION IN CUT



TYPICAL GRADING SECTION IN FILL

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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 200 West Erie Avenue Lorain, Ohio 44052
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STANDARD DESIGNS PAVEMENT SIDEWALK DETAIL

NO.	DATE	REVISION	NO.	DATE	REVISION
10	06/20/2019	NO. 3 ADDED			
11	02/05/2020	ALLEY NOTE ADDED			
11	02/10/2020	ADA RAMP NOTE ADDED			
11	02/21/2020	WALK DETAIL REV.			
13	04/26/2022	CROSS SLOPE REV.			

CAD FILE:
PV-7.0.dwg

DRWN BY: EA
 APPRVD BY: DV
 ISSUE DATE: 08/19/2015
 SCALE: NONE

SHEET:

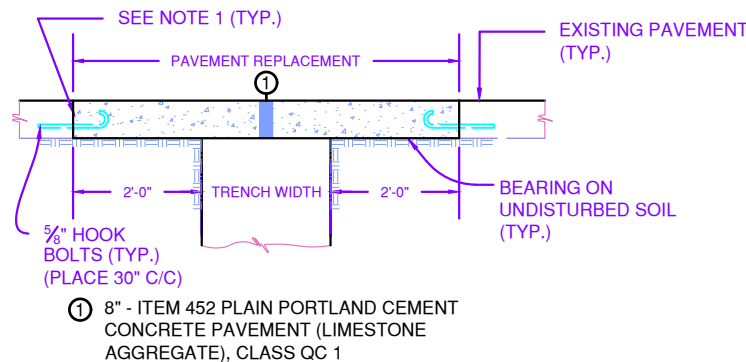
PV-7.0

DRWN BY: EA	APPRVD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE
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TYPICAL PAVEMENT REPLACEMENT DETAILS

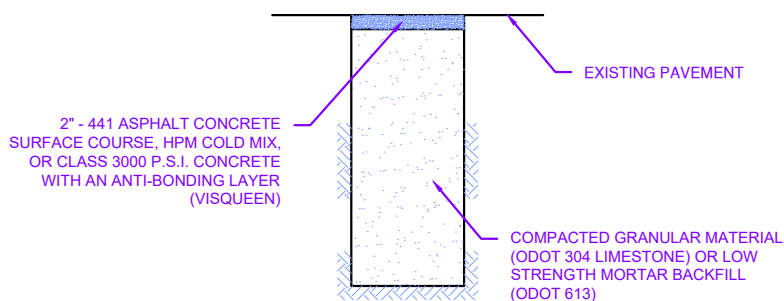
REPLACEMENT NOTES:

1. THE EXISTING PAVEMENT SHALL BE DIAMOND BLADE SAW CUT AT A DISTANCE OF 2' FROM THE UTILITY TRENCH TO PROVIDE A SUBSTANTIALLY VERTICAL AND STRAIGHT JOINT BETWEEN THE EXISTING AND REPLACEMENT PAVEMENT.
2. ALL PAVEMENT AND SIDEWALK REPLACEMENT DETAILS SHOWN REPRESENT THE MINIMUM ACCEPTABLE REPAIR. IF EXISTING SURFACES EXCEED THESE DETAILS, THEN REPAIRED SURFACES SHALL MATCH THE EXISTING.
3. ALL EDGES OF PATCHED AREAS TO BE SEALED USING ITEM 451.16/705.04.
4. ALL CURB REPLACEMENT TO BE INCLUDED W/ PAVEMENT REPLACEMENT.
5. HOOK BOLTS SHALL BE EPOXY COATED.
6. THE EXISTING LONGITUDINAL AND TRANSVERSE JOINTS SHALL DETERMINE THE AREA OF PAVEMENT REPLACEMENT REQUIRED. WHENEVER A PROPOSED SAW CUT IS DISTANT LESS THEN FIVE (5) FT. FROM A LONGITUDINAL AND/OR A TRANSVERSE JOINT, THE PAVEMENT SHALL BE REPLACED TO THE EXISTING JOINT AND LIMITS OF ALL DESIGNATED BY THE ENGINEER IN THE FIELD.
7. ALL CONCRETE FOR STREETS AND CURBS SHALL BE ODOT CLASS QC1P.



REPLACEMENT DETAIL

TEMPORARY PAVEMENT DETAIL



TEMPORARY REPLACEMENT NOTES:

1. TEMPORARY PAVEMENT SHALL BE INSTALLED WHENEVER THE PERMANENT PAVEMENT WILL NOT BE INSTALLED WITHIN 14 DAYS OF PAVEMENT REMOVAL.
2. TEMPORARY PAVEMENT PATCHES SHALL BE MAINTAINED IN A DRIVABLE CONDITION.
3. TEMPORARY PAVEMENT PATCHES SHALL BE REPLACED WITH PERMANENT PAVEMENT RESTORATION AS SOON AS POSSIBLE.
4. TEMPORARY CONCRETE SHALL USE NO. 8 STONE.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS PAVEMENT REPLACEMENT DETAIL

CAD FILE:
PV-12.1.dwg

SHEET:

DRWN BY:
EA

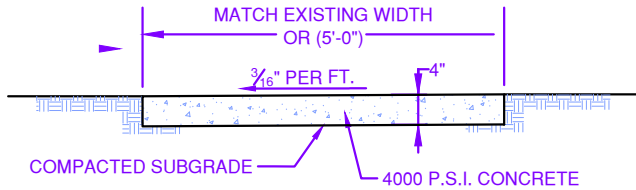
APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

PV-12.1

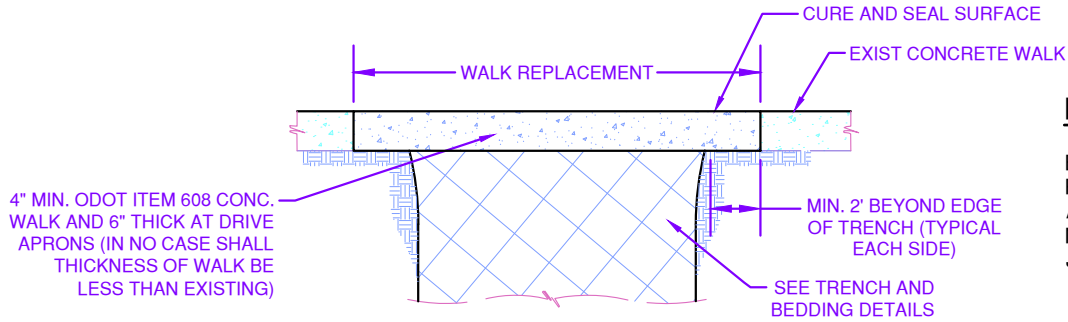
TYPICAL SIDEWALK DETAIL



NOTE:

WALK TO BE DIVIDED INTO EQUALLY SPACED BLOCKS AT APPROXIMATELY 5' INTERVALS. EXPANSION JOINT FILLER $\frac{1}{2}$ " THICK SHALL BE INSTALLED BETWEEN WALK AND ANY FIXED STRUCTURE EXTENDING FOR THE FULL DEPTH OF THE SIDEWALK. THE EXPANSION JOINT FILLER SHALL BE 1" THICK WHERE WALK IS INSTALLED AGAINST BACK OF CURB. SEE PV-7.

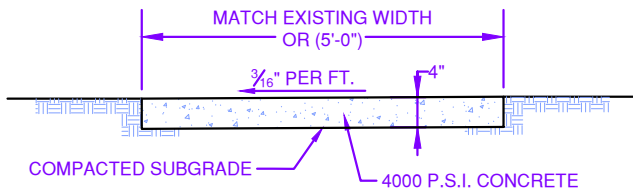
SIDEWALK REPLACEMENT



NOTE:

EXISTING WALK SHALL BE REMOVED IN FULL SLABS AND REPLACED TO MAINTAIN THE EXISTING JOINT PATTERN.

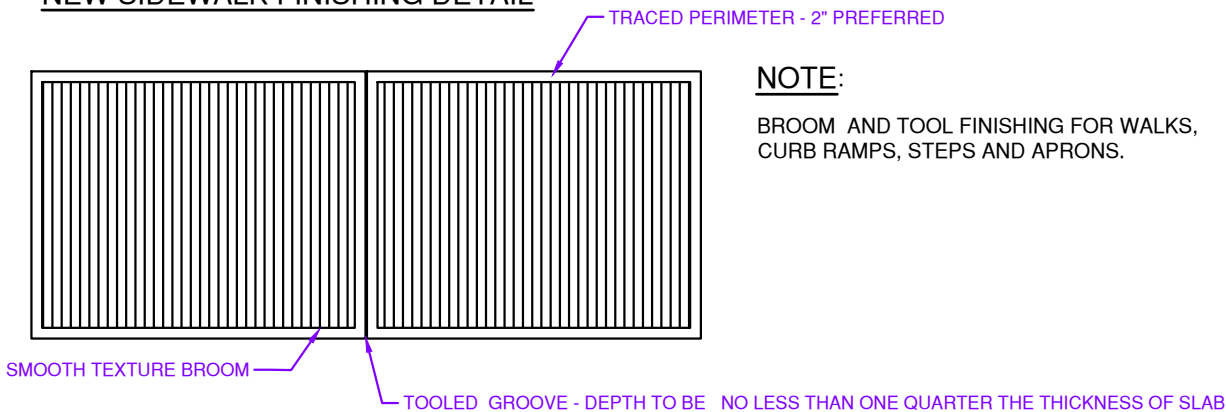
NEW SIDEWALK DETAIL



NOTE:

TOOL CONTROL JOINTS @ 5'-0" O.C. SURFACE FINISH WILL BE A SMOOTH TEXTURE BROOM PERPENDICULAR TO WALK FLOW WITH RE-TRACED PERIMETER USING AN APPROVED EDGING TOOL WITH A RADIUS OF ONE-QUARTER INCH AND INTERIOR JOINTS USING AN APPROVED GROOVING TOOL TO A DEPTH OF NOT LESS THAN ONE-QUARTER THE THICKNESS OF THE SLAB. REFER TO ODOT 608.03 C, PLACING AND FINISHING FOR WALKS, CURB RAMPS, STEPS AND APRONS.

NEW SIDEWALK FINISHING DETAIL



NOTE:

BROOM AND TOOL FINISHING FOR WALKS, CURB RAMPS, STEPS AND APRONS.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052

Phone: (440) 204-2003

STANDARD DESIGNS
SIDEWALK
FINISHING DETAIL

CAD FILE:

PV-12.2.dwg

SHEET:

PV-12.2

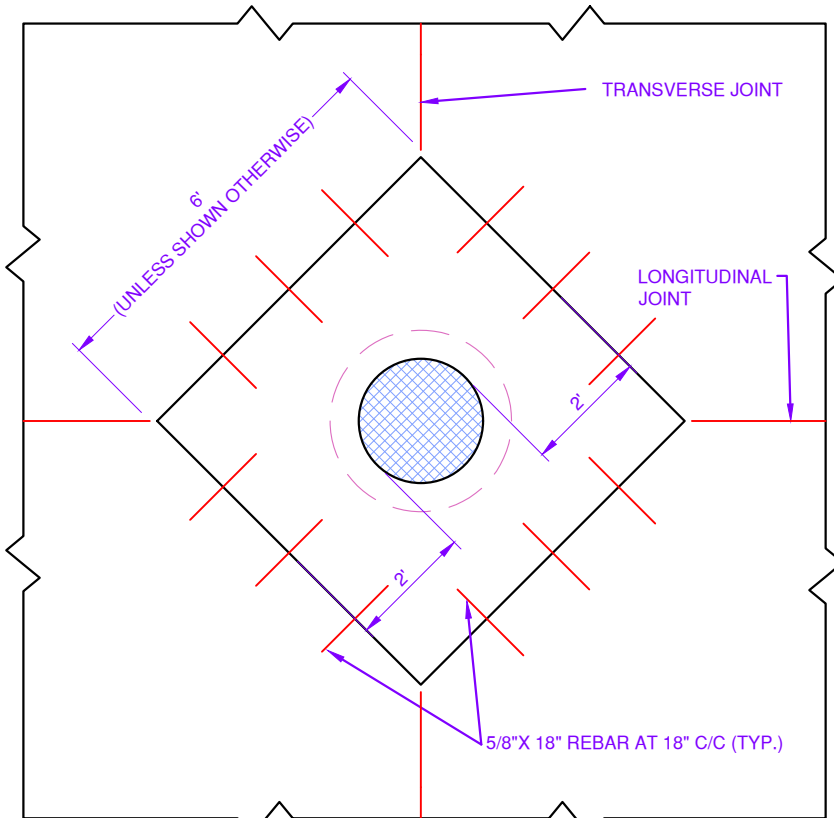
NO.	DATE	REVISION	NO.	DATE	REVISION
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11	02/06/2020	NEW WALK DETAIL REV.			
11	02/21/2020	NEW WALK NOTE REV.			
11	09/24/2020	NEW FINISHING DETAIL			
13	04/26/2022	CROSS SLOPE REV.			

DRWN BY:
EA

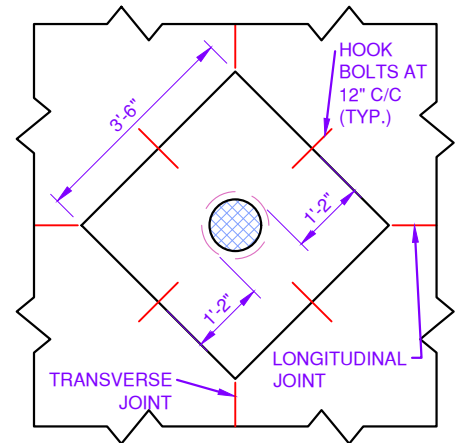
APPRVD BY:
DV

ISSUE DATE:
08/19/2015

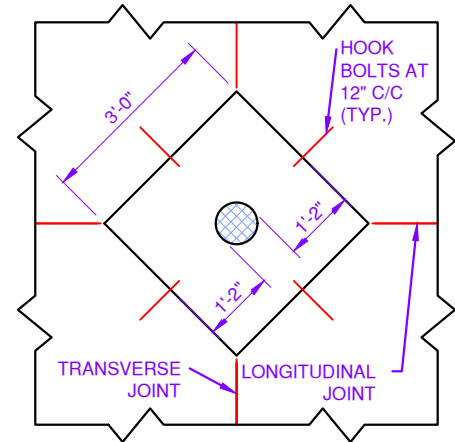
SCALE:
NONE



MANHOLE BLOCKOUT



MONUMENT BLOCKOUT



WATER VALVE BLOCKOUT

NOTES:

1. THE FOLLOWING CASTINGS ARE RECOMMENDED FOR USE: EJIW MANHOLE 1715, EJIW CATCH BASIN 7035 WITH M2 GRATE AND T1 BACK, EJIW MONUMENT BOX 1578, EJIW WATER VALVE 8560 OR APPROVED EQUALS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INVENTORY AND CONFIRM THE NUMBER AND TYPES OF CASTINGS REQUIRED BEFORE ORDERING.
2. BLOCKOUTS FOR STRUCTURES OCCURRING IN CONCRETE PAVEMENT SHALL BE INCLUDED FOR PAYMENT WITH CONCRETE PAVEMENT. WHEN BLOCKOUT IS ADJACENT TO ASPHALT CONCRETE PAVEMENT, OMIT THE DOWELS AND THE COST SHALL BE INCLUDED WITH STRUCTURE ADJUSTMENT OR RECONSTRUCTION.
3. MIX DESIGN QC MS SHALL BE USED FOR PLACEMENT OF BLOCKOUTS.
4. MONUMENT AND WATER VALVE BLOCKOUTS SHALL INCLUDE HOOK BOLTS TWELVE (12) INCHES ON CENTER FOR EACH SIDE OF THE BLOCKOUT.
5. CONCRETE BLOCKOUTS SHALL BE PLACED AT FINISH GRADE OF THE ROADWAY SURFACE.
6. PATCH SHALL BE EDGED TO A $\frac{1}{8}$ " RADIUS, PRIOR TO FINISHING TO MATCH EXISTING PAVEMENT.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052

Phone: (440) 204-2003

**STANDARD DESIGNS
PAVEMENT
BLOCKOUT DETAILS**

NO.	DATE	REVISION	NO.	DATE	REVISION
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13	04/26/2022	REM. OF EXP. MATERIAL			

CAD FILE:
PV-13.0.dwg

DRWN BY:
EA

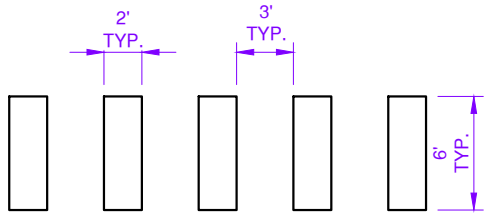
APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
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SHEET:

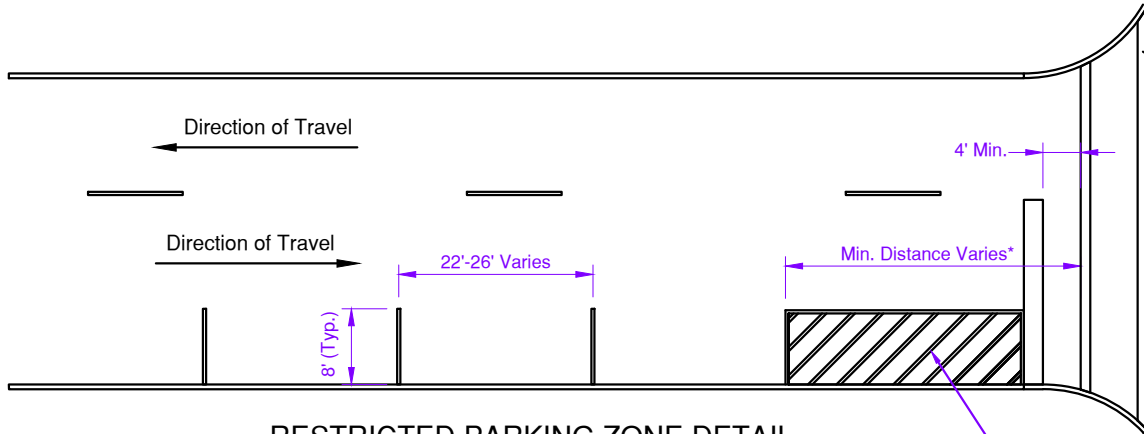
PV-13.0



CROSSWALK DETAIL

NOTES:

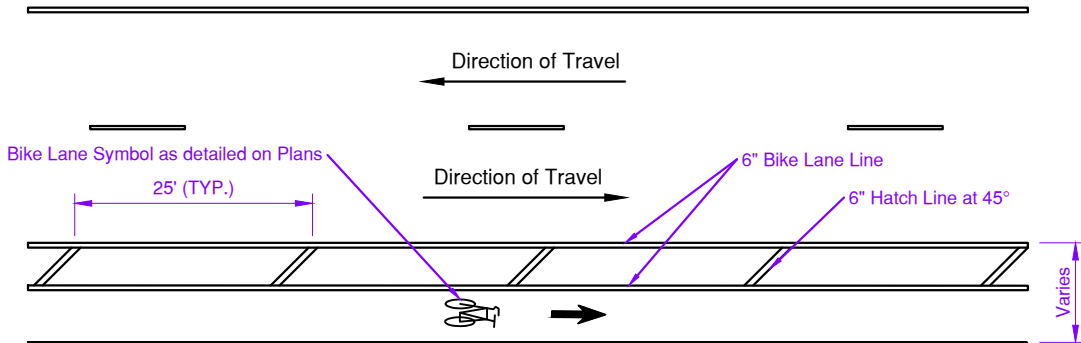
1. TRANSVERSE LINES TO BE LOCATED OUTSIDE OF TYPICAL VEHICULAR WHEEL PATH.



NOTES:

RESTRICTED PARKING ZONE DETAIL

1. MINIMUM OF 20 FEET BETWEEN NO PARKING ZONE AND CROSSWALK REQUIRED AT MARKED AND UNMARKED CROSSWALKS, OTHER THAN AT APPROACH TO SIGNAL, PER O MUTCD FIGURE 3B-21.
2. MINIMUM OF 30 FEET BETWEEN NO PARKING ZONE AND CROSSWALK REQUIRED AT APPROACH TO SIGNAL, PER O MUTCD FIGURE 3B-21.



NOTES:

BIKE LANE BUFFER DETAIL

1. WIDTHS OF BIKE LANE AND BUFFER LANE MAY VARY. REFER TO PLAN DRAWINGS.
2. OMIT 6" HATCH LINE WHERE BIKE BUFFER IS LESS THAN 3' WIDE

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

**STANDARD DESIGNS
PAVEMENT
PAVEMENT MARKING DETAILS**

PV-14.0

NO.	DATE	REVISION	NO.	DATE	REVISION

CAD FILE:

PV-14.0.dwg

DRWN BY:

AP

APPRD BY:

VAN

ISSUE DATE:

04/25/2022

SCALE:

NONE

SHEET:

CONSTRUCTION

1. THE FRAMES SHALL BE SET EVEN AND FLUSH WITH THE INTERIOR WALLS OF THE MANHOLE.
2. GRADE ADJUSTMENT RINGS SHALL BE PRE-CAST CONCRETE ONLY AND CONFORMING TO ASTM C478 GRADE RINGS. A MAXIMUM 12" OF ADJUSTMENT RINGS MAY BE USED FOR CONCRETE STRUCTURES. ONLY MASONRY CLAY-SOLID BRICK (ASTM C-32, GRADE S.S.) SHALL BE USED FOR EXISTING STRUCTURE ADJUSTMENTS.
3. SANITARY MANHOLE CASTINGS IN OR NEAR WATERWAYS AND DITCHES SHALL BE FITTED WITH A MANHOLE INFILTRATION PROTECTION DEVICE, THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE OF THE MANHOLE. RECOMMEND AN EXTERNAL WRAP SEAL FOR CASTING AND CHIMNEY SEAL AND AT MANHOLE JOINTS SUCH AS WRAPIDSEAL.

CASTINGS

1. APPROVED MANHOLE FRAMES AND LIDS ARE EAST JORDAN #1715 OR EQUAL; OR NEENAH R-1782.
2. FRAMES SHALL BE SET LEVEL, EXCEPT SET TO GRADE WHEN WITHIN THE PAVEMENT. LIDS SHALL BE FITTED AND FINISHED TO PROVIDE A FIRM AND EVEN SEAT IN THE FRAME.
3. FRAMES AND LIDS SHALL BE FITTED, MATCHED AND MARKED PRIOR TO DELIVERY TO THE PROJECT.
4. THE FRAME SHALL BE SET ON A MASTIC STRIP AROUND IT'S PERIMETER AND MORTARED TO THE SEAT OF THE CONCRETE STRUCTURE.
5. ANY SUBSTITUTIONS OF EQUAL QUALITY AND DIMENSIONS SHALL FIRST BE APPROVED BY THE CITY ENGINEER PRIOR TO PROCUREMENT. REFER TO ST-3.0.
6. ALL LIDS SHALL BE CAST WITH THE WORDS "SANITARY"; USE CITY OF LORAIN MANHOLE COVERS..
7. ALL CASTINGS AND LIDS SHALL MEET OR EXCEED ODOT H20 LOADING AND AASHTO M306 REQUIREMENTS.
8. MANHOLE RUNGS ARE NOT PERMITTED.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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City of Lorain

200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

STANDARD DESIGNS SANITARY SEWER GENERAL NOTES-MANHOLES

CAD FILE:

SS-3.0.dwg

SHEET:

SS-3.0

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

STORM SEWER

- STORM PIPE:** THE MINIMUM SIZE STORM SEWER PIPE SHALL BE 12" DIAMETER. ALL STORM SEWER SHALL BE PLACED PER THE TYPICAL DETAILS. WHERE STORM AND SANITARY SEWERS CROSS, ALIGN JOINTS EQUIDISTANT FROM THE CROSS AND EXTEND PREMIUM, GASKETED JOINTS 10' IN EACH DIRECTION.
- STORM PIPE MATERIAL:** 12" AND 15" PIPE SHALL CONFORM TO ODOT 611, MATERIAL SPECS AS FOLLOWS: REINFORCED CONCRETE PIPE - ODOT 706.02, ASTM C14-2, W/ GASKETED JOINTS PER ASTM C361 OR C443. 18" AND LARGER PIPE SHALL CONFORM TO ODOT 611, MATERIAL SPECS AS FOLLOWS: REINFORCED CONCRETE SEWER PIPE - ODOT 706.02, ASTM C76, CLASS 3, 4 OR 5 BASED ON LOADING CONDITIONS, WITH GASKETED JOINTS PER ASTM C361 OR C443. COVER OVER STORM PIPES SHALL BE PER ODOT L&D VOLUME 2 SECTION 1104.2.
- MANHOLE PIPE CONNECTIONS:** STORM SEWER PIPE CONNECTIONS TO MANHOLES SHALL BE MADE WITH CLASS C CONCRETE COLLAR SEALS, A MIN. 6" THICK AROUND THE PIPE.
- DRIVE PIPE:** RCP UNDER DRIVES AT UNIMPROVED ROADS. MINIMUM 12" DIAMETER PIPE, OR AS APPROVED BY THE CITY ENGINEER. MINIMUM 12" COVER, OR AS APPROVED BY THE CITY ENGINEER.
- HEADWALLS:** POURED IN PLACE, REINFORCED CONCRETE OR PRECAST CONCRETE, PER ODOT SCD HW-2.2 OR HW-1.1 AND ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, ITEM 602.
- ROCK CHANNEL PROTECTION:** TYPE A, B, OR C ROCK OR STONE, WITH FILTER FABRIC, PER ODOT CONSTRUCTION & MATERIAL SPECS ITEM 601; OF THE SIZE, THICKNESS AND LENGTH AS SPECIFIED IN FIGURE 1107-1 "ROCK CHANNEL PROTECTION AT CULVERT AND STORM SEWER OUTLETS", ODOT LOCATION AND DESIGN MANUAL VOL. 2 - DRAINAGE DESIGN. ROCK CHANNEL PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER THE INSTALLATION OF THE PERTINENT STORM STRUCTURE OR HEADWALL.
- ITEM 611 - PIPE CULVERTS, SEWERS, DRAINS, AND DRAINAGE STRUCTURES** - THE FOLLOWING SECTIONS SHALL BE EXCLUDED:
 - 611.04.B - INSTALLATION PLAN
 - 611.04.C - CONSTRUCTION INSPECTION FORMS
 - 611.04.D - PERFORMANCE REPORT
 - 611.12 - PERFORMANCE INSPECTION
 - 611.13 - CONDUIT EVALUATION
 - 611.14 - DRAINAGE STRUCTURE EVALUATION
- REFER TO GN 2.1 - GENERAL NOTE #25 FOR ADDITIONAL BACKFILL GUIDANCE.

NOTE:

LIFT HOLES IN REINFORCED CONCRETE PIPE SHALL BE PLUGGED WITH CEMENT/CONCRETE PLUGS PRIOR TO BACKFILL.

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015				
7	01/01/2018				
10	06/20/2019	NO. 2 CHANGED			

STANDARD DESIGNS STORM SEWER GENERAL NOTES

CAD FILE:
ST-1.0.dwg

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

SHEET:

ST-1.0

A. CONSTRUCTION:

1. THE FRAMES SHALL BE SET EVEN AND FLUSH WITH THE INTERIOR WALLS OF THE MANHOLE.
2. GRADE ADJUSTMENT RINGS SHALL BE PRE-CAST CONCRETE ONLY AND CONFORMING TO ASTM C478 GRADE RINGS. A MAXIMUM 12" OF ADJUSTMENT RINGS MAY BE USED FOR CONCRETE STRUCTURES. ONLY MASONRY CLAY-SOLID BRICK (ASTM C-32, GRADE S.S.) SHALL BE USED FOR EXISTING STRUCTURE ADJUSTMENTS.
3. MANHOLE RUNGS ARE NOT PERMITTED.

B. CASTINGS:

1. APPROVED MANHOLE FRAMES AND LIDS ARE EAST JORDAN #1715 OR EQUAL. 1710Z MAY BE SUBSTITUTED; OR NEENAH R-1782.
2. FRAMES SHALL BE SET LEVEL, EXCEPT SET TO GRADE WHEN WITHIN THE PAVEMENT. LIDS SHALL BE FITTED AND FINISHED TO PROVIDE A FIRM AND EVEN SEAT IN THE FRAME.
3. FRAMES AND LIDS SHALL BE FITTED, MATCHED AND MARKED PRIOR TO DELIVERY TO THE PROJECT.
4. THE FRAME SHALL BE SET ON A MASTIC STRIP AROUND IT'S PERIMETER AND MORTARED TO THE SEAT OF THE CONCRETE STRUCTURE.
5. ANY SUBSTITUTIONS OF EQUAL QUALITY AND DIMENSIONS SHALL FIRST BE APPROVED BY THE CITY ENGINEER PRIOR TO PROCUREMENT.
6. ALL LIDS SHALL BE CAST WITH THE WORDS "STORM"; USE CITY OF LORAIN MANHOLE COVERS.
7. ALL CASTINGS AND LIDS SHALL MEET OR EXCEED ODOT H20 LOADING AND AASHTO M306 REQUIREMENTS.

C. PAYMENT:

1. PAYMENT SHALL BE FOR THE MANHOLE COMPLETE IN PLACE, EXCAVATION AND BACKFILL INCLUDED.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

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**STANDARD DESIGNS
STORM SEWER
GENERAL NOTES-MANHOLES**

CAD FILE:

ST-2.0.dwg

SHEET:

ST-2.0

NO.	DATE	REVISION	NO.	DATE	REVISION
9	01/01/2019				
11	02/10/2020	CASTINGS NO. 1 & 6 REV.			
11	02/10/2020	CAST. OLD NO. 7 REM.			
11	02/10/2020	CONST. OLD NO. 1-7 REM.			
12	02/04/2021	CONST. OLD NO. 4 REV.			

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

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A. CONSTRUCTION:

1. CATCH BASINS SHALL BE IN ACCORDANCE WITH ODOT SCD CB-2-2A, CB-2-2B, OR CB-2-2C.
2. INLETS AND CATCH BASINS MAY BE CAST-IN-PLACE OR PRE-CAST CONCRETE. CAST-IN-PLACE CONCRETE SHALL BE CLASS QC1. REINFORCED PRE-CAST CONCRETE SHALL BE AS SPECIFIED.
3. MINIMUM WALL THICKNESS OF CAST-IN-PLACE INLETS AND BASINS SHALL BE 8". MINIMUM WALL THICKNESS OF PRE-CAST INLETS AND BASINS SHALL BE 6".
4. MINIMUM THICKNESS FOR BASES OF INLETS AND BASINS SHALL BE 6", CAST-IN-PLACE AND PRE-CAST.
5. CATCH BASINS & INLETS WITH PRE-CAST CONCRETE BASES SHALL BE PLACED ON A COMPACTED GRAVEL BED OF NO. 57 AGGREGATE, HAVING A MINIMUM THICKNESS OF 3".
6. CONCRETE BLOCK IS NOT PERMITTED MATERIALS FOR THE CONSTRUCTION OR MODIFICATION OF INLETS AND CATCH BASINS; ONLY MASONRY CLAY-SOLID BRICK (ASTM C-32, GRADE S. S.) SHALL BE USED.
7. FRAMES SHALL BE SET EVEN AND FLUSH WITH THE INTERIOR WALLS OF THE INLETS AND BASINS.
8. DOUBLE INLETS SHALL BE LOCATED AT ALL SAG VERTICAL CURVES. UNDERDRAINS SHALL DRAIN TO THE SIDES, SOLID PIPE SHALL BE PROVIDED A MINIMUM OF 10' FROM THE WALLS, OR AS DIRECTED BY THE CITY ENGINEER.
9. INVERTS SHALL BE FORMED IN ALL INLET AND BASIN STRUCTURES TO PROVIDE POSITIVE FLOW. USE CLASS QC1 CONCRETE TO FORM INVERTS.
10. ALL PIPING THROUGH CATCH BASIN WALLS SHALL BE SEALED WITH A CLASS QC1 CONCRETE COLLAR A MIN. OF 6" THICK.

B. CASTINGS:

1. APPROVED FRAMES/GRATES FOR BASINS AND INLETS ARE SHOWN BELOW:

STRUCTURE TYPE	NEENAH		EJ		
	FRAME	GRATE	FRAME	GRATE	BACK
SINGLE CURB INLET (MOD. NO. 3A CB)	R-3246-CL	C	7035	M2	T1-BARRIER CURB T2-ROLL CURB OR DRIVE APRON
DOUBLE CURB INLET (MOD. NO. 3 CB)			7036	M2	T1-BARRIER CURB T2-ROLL CURB OR DRIVE APRON
SINGLE CURB INLET (< 3'X2'3")	R-3030	A	7010 7020	M1 M2	T1-BARRIER CURB T4-ROLL CURB

NOTE: 7010 ALTERNATE IS 7020, M2, T1-BARRIER

2. ALL GRATES WITHIN THE PAVEMENT SHALL BE BICYCLE-SAFE AND SET CORRECTLY WITH THE DIRECTION OF WATER FLOW.
3. THE FRAME AND GRATE SHALL BE FITTED AND FINISHED TO PROVIDE A FIRM AND EVEN SEAT IN THE FRAME.
4. BASINS AND INLETS SHALL BE PLACED TRUE TO LINE AND GRADE, PER PLAN.
5. THE FRAMES AND GRATES SHALL BE FITTED, MATCHED AND MARKED PRIOR TO DELIVERY TO THE PROJECT.
6. ANY SUBSTITUTIONS OF EQUAL QUALITY AND DIMENSIONS SHALL FIRST BE APPROVED BY THE CITY ENGINEER PRIOR TO PROCUREMENT.
7. ALL FRAMES AND GRATES SHALL MEET OR EXCEED AASHTO M306.
8. ALL CASTINGS SHALL HAVE THE WORDS "DUMP NO WASTE" AND "DRAINS TO WATERWAY" ALONG WITH A FISH LOGO CAST INTO THE GRATE AND/OR CURB BOX.

C. PAYMENT:

1. THE PAVEMENT BLOCK-OUT SHALL BE PLACED AFTER THE CASTING HAS BEEN SET, BUT WILL BE PAID FOR AS THOUGH PART OF THE CONCRETE PAVEMENT.
2. NO DEDUCTION SHALL BE MADE IN QUANTITIES OF PAVEMENT BECAUSE OF THE CASTING.

NOTE 1: THIS DETAIL IS VALID ONLY WHEN USED AS PRESENTED HERE, WITHOUT CHANGES, AND IN CONJUNCTION WITH ANY GENERAL NOTES AND/OR OTHER DETAILS WHICH MAY APPLY. ANY CHANGES TO THIS DETAIL SHALL FIRST BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER.

NOTE 2: BEFORE ANY EXCAVATING, CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS IN ADVANCE: O.U.P.S. @ (800) 362-2764.

City of Lorain

200 West Erie Avenue Lorain, Ohio 44052

Phone: (440) 204-2003

**STANDARD DESIGNS
STORM SEWER
GENERAL NOTES-CATCH BASINS & INLETS**

CAD FILE:

ST-3.0.dwg

SHEET:

ST-3.0

DRWN BY:
EA

APPRVD BY:
DV

ISSUE DATE:
08/19/2015

SCALE:
NONE

GENERAL - MATERIAL

1. VALVE BOX: EAST JORDAN IRON WORKS 8560 SERIES THREE PIECE WITH DROP LID.

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City of Lorain
200 West Erie Avenue Lorain, Ohio 44052
Phone: (440) 204-2003

NO.	DATE	REVISION	NO.	DATE	REVISION
1	10/27/2015				
5	05/12/2017				
7	01/01/2018				
11	02/10/2020	OLD NO. 1-8 & 10-20 REM.			

STANDARD DESIGNS
WATERLINE
GENERAL NOTES

CAD FILE: WT-1.0.dwg			
DRWN BY: EA	APPRVD BY: DV	ISSUE DATE: 08/19/2015	SCALE: NONE

SHEET: WT-1.0
