CITY OF WINDSOR HEIGHTS, IOWA

CONSTRUCTION PLANS FOR

68TH STREET SOUTH RECONSTRUCTION

WINDSOR HEIGHTS, IA
JANUARY 2025

GOVERNING SPECIFICATIONS

THE 2024 EDITION OF THE "IOWA STATEWIDE URBAN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS".

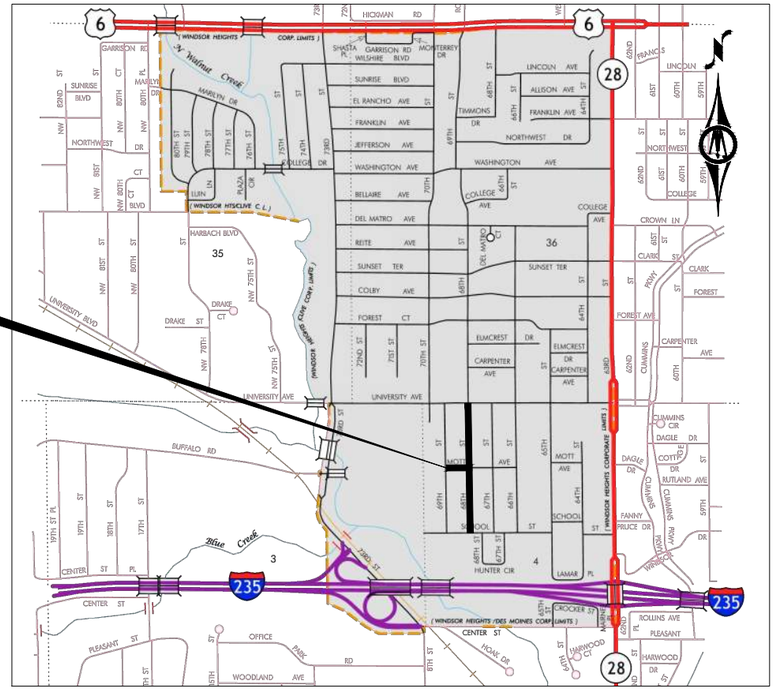
IOWA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION", VERSION OCTOBER 2015 AND ALL CURRENT GENERAL SUPPLEMENTAL SPECIFICATIONS AND MATERIALS INSTRUCTIONAL MEMORANDUM SHALL GOVERN AS REFERENCED.

MUTCD 2009 AS ADOPTED BY IOWA DEPARTMENT OF TRANSPORTATION.

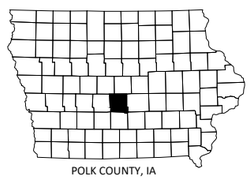
NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW, NOTIFY IOWA ONE CALL 1-800-292-8989

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

PROJECT LOCATION



MAP OF THE
CITY OF WINDSOR HEIGHTS
POLK COUNTY, IA



POLK COUNTY, IA

UTILITY CONTACTS

SANITARY SEWER: CITY OF WINDSOR HEIGHTS
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1145 66TH ST.
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CELL: 515-279-3662

STORM SEWER: CITY OF WINDSOR HEIGHTS
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LICENSED PROFESSIONAL ENGINEER
JUSTIN L., ERNST, 23753
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JUSTIN L. ERNST, P.E.

LICENSE NUMBER: 23753 DATE: XX/XX/XXXX

MY LICENSE RENEWAL DATE IS December 31, 2025

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEET

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DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TITLE SHEET

SHEET
A.01

EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT POLE
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- ORDER MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS
- LIGHT POLE

SURVEY SYMBOLS

- BENCHMARK LOCATION
- CONTROL POINT
- MONUMENT FOUND
- CAST IRON MONUMENT
- STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES

- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

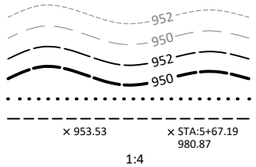
EXISTING UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING
- TRENCHLESS PIPE (PLAN VIEW)
- TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION



- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROJECT LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL - 1-800-292-8989

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL OTHER THAN D:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

LEVEL D - INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.

LEVEL C - SURVEYING ABOVE GROUND UTILITY FACILITIES, SUCH AS MANHOLES, VALVE BOXES, ETC; AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.

LEVEL B - THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UNDERGROUND UTILITIES.

LEVEL A - THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	SAN	SANITARY SEWER
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
ALT	ALTERNATE	HH	HANDHOLE	SERV	SERVICE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SHLD	SHOULDER
BLDG	BUILDING	HP	HIGH POINT	STA	STATION
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STD	STANDARD
BR	BEGIN RADIUS	HYD	HYDRANT	STM	STORM SEWER
BV	BUTTERFLY VALVE	I	INVERT	TC	TOP OF CURB
CB	CATCH BASIN	K	CURVE COEFFICIENT	TE	TEMPORARY EASEMENT
C&G	CURB AND GUTTER	L	LENGTH	TEMP	TEMPORARY
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TNH	TOP NUT HYDRANT
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TP	TOP OF PIPE
CL	CENTER LINE	LT	LEFT	TYP	TYPICAL
CL.	CLASS	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CSP	CORRUGATED STEEL PIPE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CLVT	CULVERT	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE		
E	EXTERNAL CURVE DISTANCE	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ESMT	EASEMENT	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEC	ELECTRIC	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
ELEV/EL	ELEVATION	PERF	PERFORATED PIPE	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERM	PERMANENT	EA	EACH
ER	END RADIUS	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
EX	EXISTING	PL	PROPERTY LINE	LB	POUND
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
F-F	FACE TO FACE	PT	POINT OF TANGENT	LS	LUMP SUM
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SF	SQUARE FEET
FM	FORCEMAIN	R	RADIUS	SV	STOCKPILE VOLUME
FO	FIBER OPTIC	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
F.O.	FIELD ORDER	RET	RETAINING		
GRAN	GRANULAR	R/W	RIGHT-OF-WAY		
GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT		
GU	GUTTER	RT	RIGHT		

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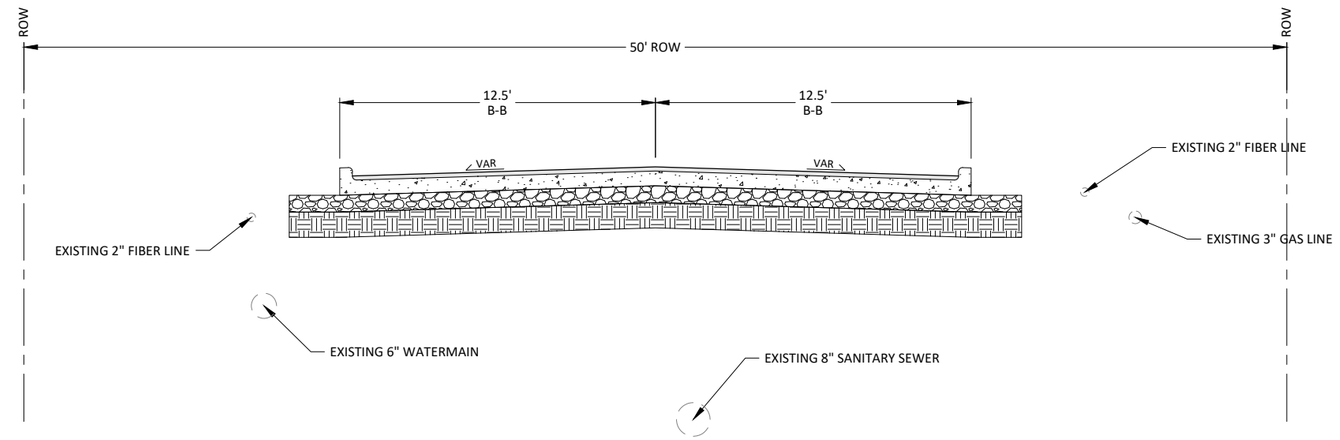
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
LEGEND SHEET

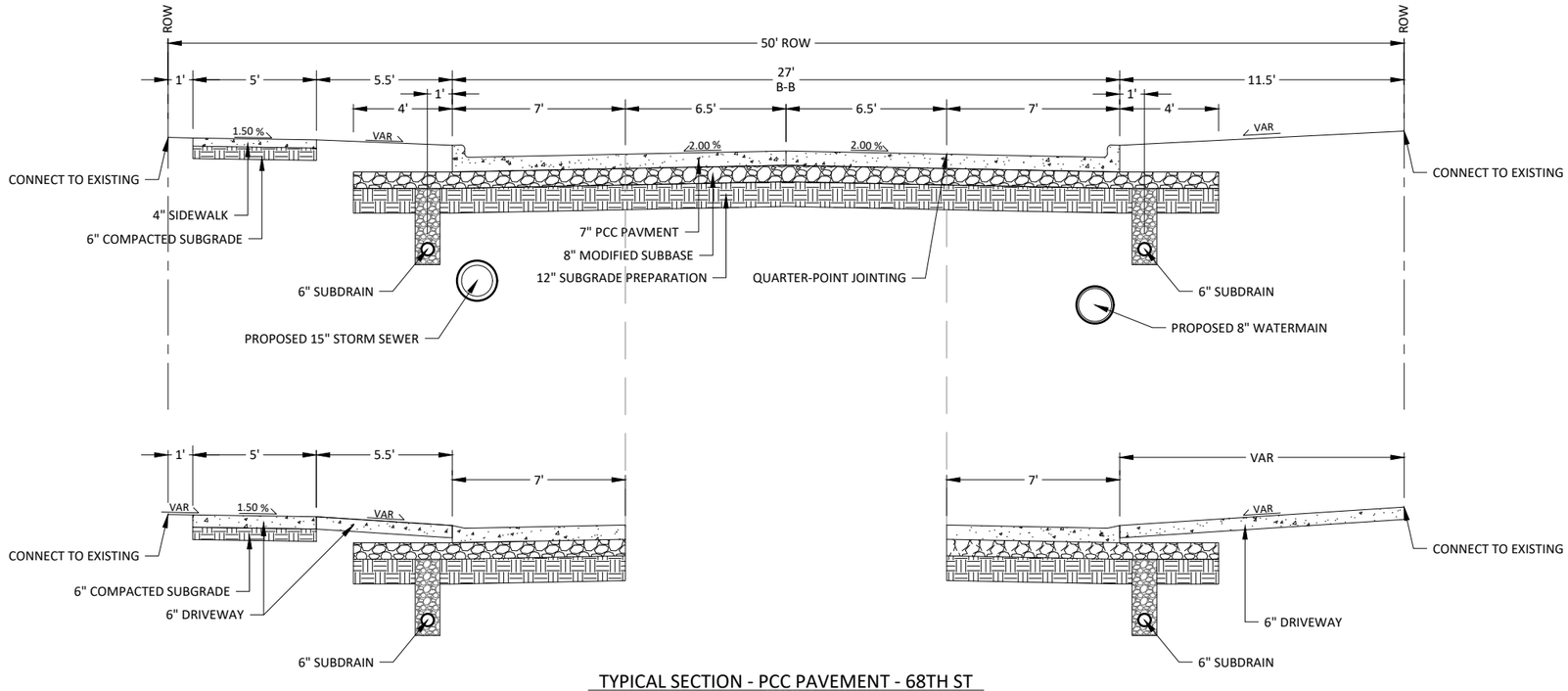
SHEET
A.02



TYPICAL EXISTING PAVEMENT SECTION - 68TH ST

NOT TO SCALE

STA: 10+00.00 TO 27+79.81



TYPICAL SECTION - PCC PAVEMENT - 68TH ST

NOT TO SCALE

STA: 10+00.02 TO 18+78.98

STA: 23+85.00 TO 27+71.83

DRIVEWAY SECTION

NOT TO SCALE

WINDSOR HEIGHTS

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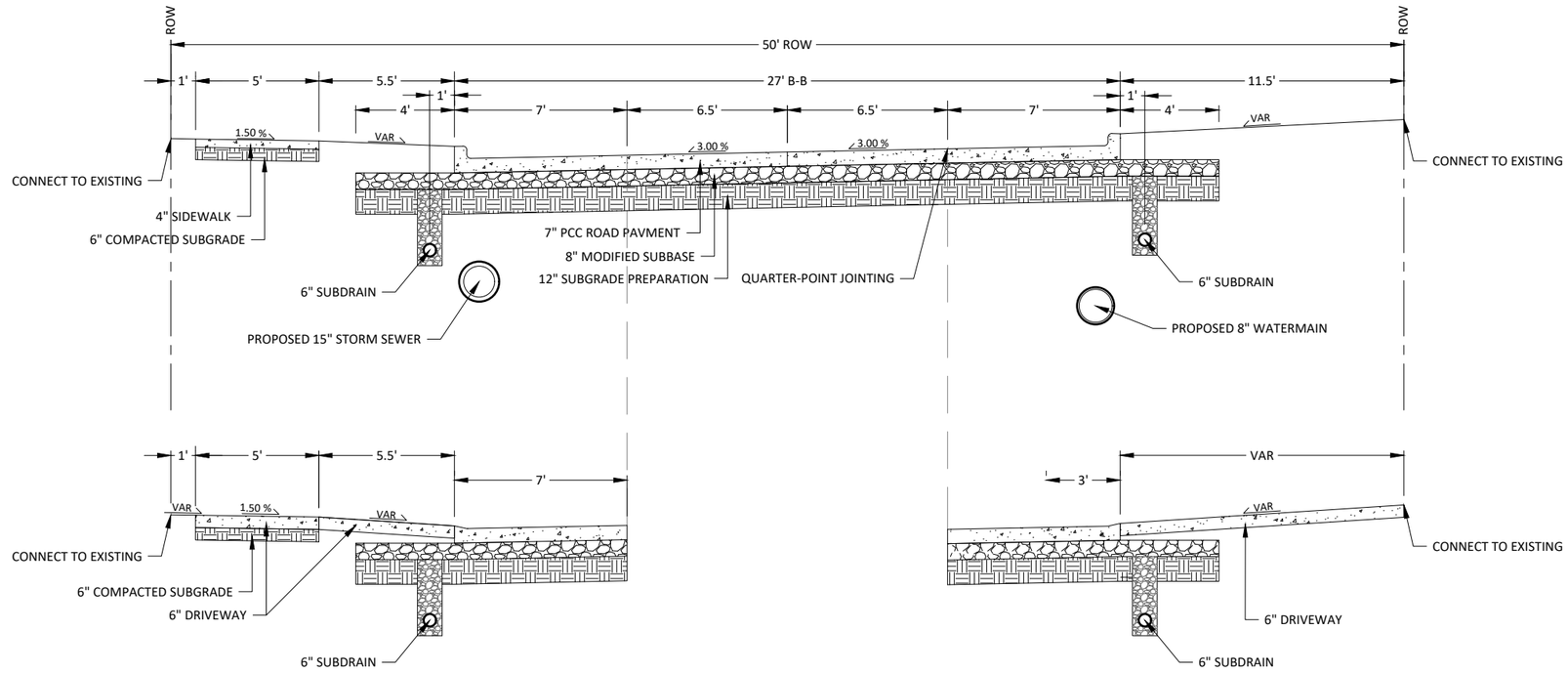
CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

TYPICAL SECTIONS

SHEET B.01



TYPICAL SECTION - PCC PAVEMENT MONOSLOPE - 68TH ST
NOT TO SCALE

DRIVEWAY SECTION
NOT TO SCALE

STA: 19+35.17 TO 22+62.45

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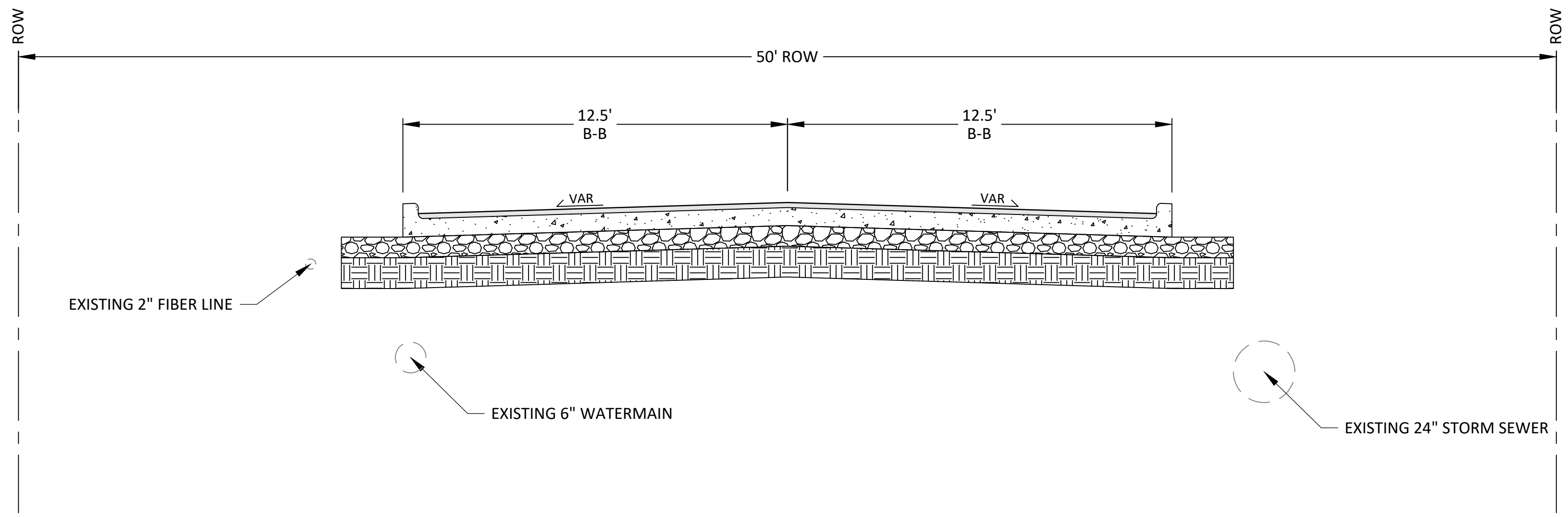
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TYPICAL SECTIONS

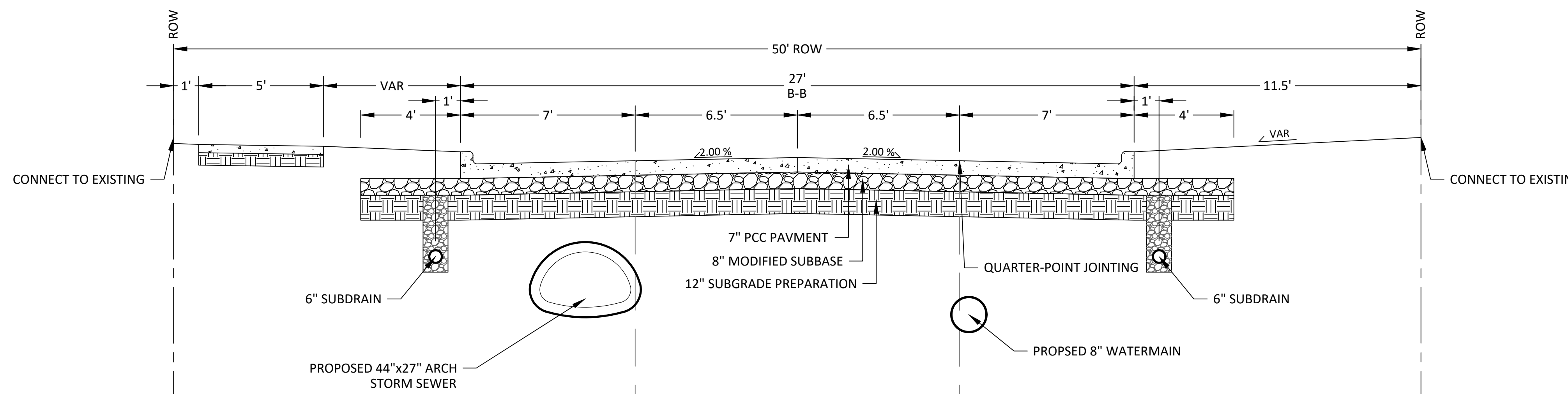
SHEET
B.02



TYPICAL EXISTING PAVEMENT SECTION - MOTT AVE

NOT TO SCALE

STA: 50+00.00 TO 53+50.50



TYPICAL SECTION - ALTERNATE BID

NOT TO SCALE

STA: 50+00.00 TO STA 53+50.50

DRIVEWAY SECTION

NOT TO SCALE

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WINDSOR HEIGHTS the heart of it all

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

TYPICAL SECTIONS

SHEET B.03

STANDARD CONSTRUCTION NOTE:

1. ALL IMPROVEMENTS, EXCEPT FOR WATER MAIN RELATED ITEMS, SHALL BE IN ACCORDANCE WITH THE 2024 EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) AND SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES. THE CONTRACTOR SHALL HAVE A COMPLETE SET OF THE CURRENT SUDAS STANDARD SPECIFICATIONS ON SITE DURING ALL CONSTRUCTION ACTIVITIES.
2. WATER MAIN RELATED IMPROVEMENTS AND ITEMS TO FOLLOW PLANS AND DES MOINES WATER WORKS SPECIAL PROVISIONS.
3. ANY DEFECTIVE WORK CONDEMNED BY THE ENGINEER SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE IN ACCORDANCE WITH SUDAS SECTION 1050. FAILURE TO REMOVE DEFECTIVE WORK MAY RESULT IN SUSPENSION OF OPERATIONS AND/OR WITHHOLDING OF PAYMENTS UNTIL DEFECTIVE WORK HAS BEEN REMOVED AND REPLACED.
4. PRIOR TO MOBILIZING OFF OF THE JOB SITE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO REQUEST A FINAL INSPECTION IN ACCORDANCE WITH SUDAS SECTION 1050.
5. THE CONTRACTOR SHALL PROCURE ALL NECESSARY PERMITS AND LICENSES IN ACCORDANCE WITH SUDAS SECTION 1070.
6. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND COMPLYING WITH ALL CURRENT AND FUTURE FEDERAL AND STATE OSHA REQUIREMENTS IN ACCORDANCE WITH SUDAS SECTION 1070.
7. LIMITS OF CONSTRUCTION ARE WITHIN THE CITY RIGHT OF WAY, UNLESS SHOWN OTHERWISE IN THE CONSTRUCTION DRAWINGS. WORK SHALL BE COMPLETED IN THE LIMITS OF CONSTRUCTION AND IN ACCORDANCE WITH SUDAS SECTION 1070.
8. THE CONTRACTOR SHALL UPDATE THE TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH SUDAS SECTION 1070, IF CONSTRUCTION ACTIVITIES DEVIATE FROM STAGING PLAN PROVIDED. ANY TRAFFIC CONTROL DEVICES OR SAFETY EQUIPMENT NEEDED TO CONSTRUCT THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING AND TRAFFIC CONTROL PLAN WITH PLANNED DETOURS TO THE CITY OF WINDSOR HEIGHTS PUBLIC SERVICES FOR APPROVAL BEFORE THE START OF ANY CONSTRUCTION ACTIVITIES.
9. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITIES MAY NOT BE INDICATED ON THESE PLANS. WORK SHALL BE COMPLETED IN ACCORDANCE WITH SUDAS SECTION 1070. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DAMAGE TO EXISTING UTILITIES.
10. IN ACCORDANCE WITH SUDAS SECTION 1070, THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL ITS WORK FROM DAMAGE AND SHALL PROTECT THE JURISDICTION'S PROPERTY AND ADJACENT PRIVATE PROPERTY FROM INJURY OR LOSS ARISING IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL REPAIR OR RESTORE ANY SUCH DAMAGE, INJURY, OR LOSS TO JURISDICTION PROPERTY OR ADJACENT PROPERTY. THE CONTRACTOR SHALL PROTECT TREES AND OTHER PROPERTY NOT MARKED FOR REMOVAL . THE CONTRACTOR SHALL SALVAGE ANY LANDSCAPING WITHIN THE RIGHT OF WAY UPON REQUEST BY THE ADJACENT PROPERTY OWNERS.
11. THE CONTRACTOR SHALL PRESERVE OR REPLACE ALL PROPERTY MONUMENTS ON THE PROJECT SITE IN ACCORDANCE WITH IOWA STATE CODE SECTION 355.6A AND SUDAS SECTION 1070.
12. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE CLEANLINESS. UPON REQUEST BY THE ENGINEER, THE CONTRACTOR SHALL, AT ITS EXPENSE, CLEANUP AND REMOVE ALL REFUSE AND UNUSED MATERIALS OF ANY KIND RESULTING FROM THE WORK INCLUDING CLEANING AND SWEEPING OF ADJACENT STREETS. UPON FAILURE TO DO SO WITHIN THREE WORKING DAYS AFTER SUCH REQUEST BY THE ENGINEER, THE WORK MAY BE DONE BY THE JURISDICTION AND THE COST THERE OF CHARGED TO THE CONTRACTOR AND DEDUCTED FROM ITS FINAL PAYMENT IN ACCORDANCE WITH SUDAS SECTION 1070.
13. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A PROGRESS SCHEDULE THAT WILL ENSURE THE COMPLETION OF THE PROJECT WITHIN THE TIME SPECIFIED. IF IT APPEARS THE RATE OF PROGRESS IS SUCH THAT THE CONTRACT WILL NOT BE COMPLETED WITHIN THE TIME ALLOWED, OR IF THE WORK IS NOT BEING EXECUTED IN A SATISFACTORY AND WORKMANLIKE MANNER, THE ENGINEER MAY ORDER THE CONTRACTOR TO TAKE SUCH STEPS AS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN THE CONTRACT IN ACCORDANCE WITH SUDAS SECTION 1080.
14. IF THE PROJECT IS SUBSTANTIALLY COMPLETE AND ONLY CLEANUP AND MINOR WORK ITEMS REMAIN FOR MORE THAN 30 CALENDAR DAYS, THE ENGINEER MAY RESTART CHARGING OF WORKING DAYS OR CHARGE PENALTIES EQUAL TO THE CONTRACT LIQUIDATED DAMAGES UNTIL ALL CORRECTIVE ACTION HAS BEEN COMPLETED IN ACCORDANCE WITH SUDAS SECTION 1080.
15. CONTRACTOR TO STORE EQUIPMENT WITHIN THE WORK ZONE AND NOT ON THE STREET. EMPLOYEES ARE NOT TO PARK IN AREAS WHERE THEY OCCUPY ON-STREET PARKING FOR RESIDENTS AFFECTED BY CONSTRUCTION.
16. IN ORDER TO AVOID ANY UNNECESSARY SURFACE BREAKS OR PREMATURE SPALLING, THE CONTRACTOR IS CAUTIONED TO EXERCISE EXTREME CARE WHEN PERFORMING ANY OF THE NECESSARY SAW CUTTING OPERATIONS FOR THE PROPOSED PAVEMENT REMOVAL. ADJACENT PAVEMENT THAT IS CHIPPED OR DAMAGED DUE TO SAW OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S COST IN ACCORDANCE WITH THE PROJECT SPECIFICATION DETAILS FOR STREET EXCAVATION AND PAVEMENT REPLACEMENT. ALL SAW CUTS ADJACENT TO EXISTING PAVEMENT AND CURBS SHALL BE FULL DEPTH.
17. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DAMAGE ADJACENT PAVEMENT, SIDEWALKS, DRIVES, MEDIANS, CURBS, STRUCTURES, AND OTHER AREAS NOT DESIGNATED AS PART OF THE PATCHING WORK AREA. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO AREAS NOT DESIGNATED AS PART OF THE PATCHING WORK AT NO COST TO THE OWNER.

UTILITY COORDINATION NOTES:

1. CONTRACTOR TO POTHOLE EXISTING UTILITIES A MINIMUM OF 3 WEEKS PRIOR TO COMMENCING WORK TO DETERMINE IF ANY CONFLICTS EXIST. THIS IS CONSIDERED INCIDENTAL TO THE PROJECT. IMMEDIATELY REPORT ANY CONFLICTS TO THE ENGINEER.
2. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT (800) 292-8989 TO LOCATE EXISTING UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
3. ANTICIPATED UTILITY CONFLICTS HAVE BEEN IDENTIFIED AND EACH RESPECTIVE UTILITY OWNER HAS BEEN INFORMED OF THE POTENTIAL CONFLICTS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN THE PROJECT SITE.
4. IF A CONFLICT IS DISCOVERED BY THE CONTRACTOR, NOTIFY THE ENGINEER IMMEDIATELY AND COORDINATE WITH OWNER OF UTILITY TO RESOLVE CONFLICT.
5. UTILITY CONTACT NUMBERS:

WINDSOR HEIGHTS PUBLIC SERVICES (SEWERS)		
DES MOINES WATER WORKS	CARLA SCHUMACHER (515-323-6227)	CSCHUMACHER@DMWW.COM
MID-AMERICAN ENERGY (ELECTRIC)	SCOT ENGER (515-252-6742)	SEENGER@MIDAMERICAN.COM
MID-AMERICAN ENERGY (GAS)	SCOT ENGER (515-252-6742)	SEENGER@MIDAMERICAN.COM
MID-AMERICAN ENERGY (ELECTRIC) - EMERGENCY	1-800-799-4443	
MID-AMERICAN ENERGY (GAS) - EMERGENCY	1-800-595-5325	
MEDIACOM	KEVIN COLLINS (515-554-2648)	KCCOLLINS1@MEDIACOMCC.COM
LUMEN	ASHLIE CLEMENTS (906-284-2821)	ASHLIE.CLEMENTS@LUMEN.COM

PROJECT SCHEDULE

1. SUBSTANTIAL COMPLETION: XX/XX/XXXX
   LIQUIDATED DAMAGES: $500 / CALENDAR DAY

PROJECT NOTES:

1. EXISTING SIDEWALKS WITHIN THE PROJECT ARE TO BE PROTECTED AND PEDESTRIAN ACCESS TO ALL ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
2. CONTRACTOR SHALL STAGE WORK IN A MANNER TO MINIMIZE IMPACT TO RESIDENTS.
3. WATER MAIN SHALL EXTEND PAST THE PAVING LIMITS AT STAGE LINES TO ENSURE NO NEW PAVEMENT IS REMOVED.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION STAKING IN ACCORDANCE WITH SECTION 11,010 OF THE STANDARD SPECIFICATIONS AND SHALL COMPLY WITH IOWA CODE 355 AND IOWA ADMINISTRATIVE CODE SECTION 193C FOR THE REPLACEMENT OF ALL DISTURBED MONUMENTS WITHIN THE PROJECT AREA.
5. CONTRACTOR SHALL PROPERLY SECURE PROJECT SITE AT THE END OF EACH DAY.
6. CONTRACTOR OPERATIONS CREATING OBJECTIONABLE LEVELS OF NOISE SHALL NOT BEGIN PRIOR TO 7:00 AM AND SHALL END PRIOR TO 7:00 PM.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND/OR MULCHED (DEPENDING ON DATE) UPON COMPLETION OF GRADING.
8. THE CONTRACTOR SHALL LIMIT THEIR ACCESS TO THE PROJECT SITE TO THE STABILIZED ENTRANCE LOCATIONS SHOWN IN THE SWPPP.
9. ANY TREES AND LANDSCAPING SHALL BE REMOVED ONLY BY APPROVAL OF THE ENGINEER.

STORM WATER POLLUTION PREVENTION PLAN NOTES:

1. NPDES PERMIT IS NOT REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING EROSION AND UNACCEPTABLE CONSTRUCTION RUNOFF FROM ENTERING STORM SEWERS. CONTRACTOR SHALL PROVIDE MEASURES AS DIRECTED BY ENGINEER. PREVENTATIVE MEASURES ARE INCIDENTAL TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS WITHIN THE PROJECT UNTIL STABILIZED. IF UNDESIRABLE VEGETATION IS ESTABLISHED BEFORE THE AREA IS SEEDED/SODDED OR STABILIZED, IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE ALL UNWANTED VEGETATION. FAILURE TO PROVIDE MAINTENANCE WITHIN THREE WORKING DAYS AFTER REQUESTED BY THE ENGINEER, THE WORK MAY BE DONE BY THE JURISDICTION AND THE COST THEREOF CHARGED TO THE CONTRACTOR AND DEDUCTED FROM THEIR FINAL PAYMENT.
3. ALL DISTURBED AREAS SHALL BE SEEDED AND/OR MULCHED (DEPENDING ON DATE) UPON COMPLETION OF GRADING.
4. THE CONTRACTOR SHALL LIMIT THEIR ACCESS TO THE PROJECT SITE TO THE STABILIZED ENTRANCE LOCATIONS SHOWN IN THE SWPPP.
5. CONTACTOR SHALL FOLLOW ALL REQUIREMENTS OF IDNR NPDES GENERAL PERMITS #2.
6. CONTACTOR SHALL MINIMIZE THE AMOUNT OF SOIL EXPOSED DURING CONSTRUCTION ACTIVITY
7. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. IN DROUGHT-STRICKEN AREAS AND AREAS THAT HAVE RECENTLY RECEIVED SUCH HIGH AMOUNTS OF RAIN THAT SEEDING WITH FIELD EQUIPMENT IS IMPOSSIBLE AND INITIATING VEGETATIVE STABILIZATION IMMEDIATELY IS INFEASIBLE, ALTERNATIVE STABILIZATION MEASURES MUST BE EMPLOYED AS SPECIFIED BY THE DEPARTMENT. IN LIMITED CIRCUMSTANCES, STABILIZATION MAY NOT BE REQUIRED IF THE INTENDED FUNCTION OF A SPECIFIC AREA OF THE SITE NECESSITATES THAT IT REMAIN DISTURBED.
8. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE;
9. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND STORM WATER. MINIMIZATION OF EXPOSURE IS NOT REQUIRED IN CASES WHERE THE EXPOSURE TO PRECIPITATION AND TO STORM WATER WILL NOT RESULT IN A DISCHARGE OF POLLUTANTS, OR WHERE EXPOSURE OF A SPECIFIC MATERIAL OR PRODUCT POSES LITTLE RISK OF STORM WATER CONTAMINATION (SUCH AS FINAL PRODUCTS AND MATERIALS INTENDED FOR OUTDOOR USE)
10. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES.
11. CONCRETE WASHOUTS SHALL BE PROVIDED ON SITE.
12. QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN STABILIZED WITH A PERENNIAL, VEGETATIVE COVER OF SUFFICIENT DENSITY TO PRECLUDE EROSION AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. UNLESS EROSION IS EVIDENT OR OTHER CONDITIONS WARRANT THEM, REGULAR INSPECTIONS ARE NOT REQUIRED ON AREAS THAT HAVE BEEN STABILIZED WITH A PERENNIAL, VEGETATIVE COVER OF SUFFICIENT DENSITY TO PRECLUDE EROSION.
13. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM.
14. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.
15. BASED ON THE RESULTS OF THE INSPECTION, POLLUTION PREVENTION MEASURES IDENTIFIED IN THE PLANS SHALL BE REVISED AT THE CONSTRUCTION SITE AS APPROPRIATE AS SOON AS PRACTICABLE AFTER THE INSPECTION AND TO THE PLAN AS SOON AS PRACTICABLE AFTER THE INSPECTION BUT IN NO CASE MORE THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF THE PERMITTEE DETERMINES THAT MAKING THESE CHANGES AT THE CONSTRUCTION SITE OR TO THE PLAN LESS THAN 72 HOURS AFTER THE INSPECTION IS IMPRACTICABLE, THE PERMITTEE SHALL DOCUMENT IN THE PLAN WHY IT IS IMPRACTICABLE AND INDICATE AN ESTIMATED DATE BY WHICH THE CHANGES WILL BE MADE.
16. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS AFTER FINAL STABILIZATION HAS BEEN ACHIEVED AND A NOTICE OF DISCONTINUATION HAS BEEN SUBMITTED TO THE DEPARTMENT.

TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL LAYOUTS SHOWN ON THESE PLANS ARE GENERAL TRAFFIC CONTROL LAYOUTS FOR INFORMATION ONLY.
2. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH SECTION 1070, 2.06 'TRAFFIC CONTROL' OF THE STANDARD SPECIFICATIONS. ANY TRAFFIC CONTROL DEVICES OR SAFETY EQUIPMENT NEEDED TO CONSTRUCT THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING AND TRAFFIC CONTROL PLAN WITH PLANNED DETOURS, IF APPLICABLE, TO THE ENGINEER FOR APPROVAL BEFORE THE START OF ANY CONSTRUCTION ACTIVITIES.
3. IF NECESSARY, STREETS WILL BE CLOSED IN ACCORDANCE WITH SECTION 1070, 2.06 'TRAFFIC CONTROL' OF THE STANDARD SPECIFICATIONS. ALL TRAFFIC CONTROL PLANS MUST BE REVIEWED AND APPROVED BY ENGINEER.
4. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
5. PORTABLE MOUNTINGS FOR WARNING SIGNS MAY BE USED FOR TEMPORARY INSTALLATIONS OF 3 DAYS OR LESS ALL OTHER TRAFFIC CONTROL SHALL BE POST MOUNTED.
6. THE PROPOSED SIGNAGE MAY BE MODIFIED TO MEET FIELD CONDITIONS, PREVENT OBSTRUCTIONS AND TO ACCOMMODATE CONSTRUCTION SCHEDULING UPON APPROVAL OF THE PROJECT ENGINEER
7. ORANGE SAFETY FENCE SHALL BE PLACED ENTIRELY ACROSS THE TRAVELED PORTION OF THE ROADWAY AT ALL LOCATIONS WHERE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS ARE USED.
8. SIGNAGE MAINTENANCE SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE ENGINEER.
9. ALL CONSTRUCTION SIGNS SHALL BE DIAMOND GRADE FLUORESCENT ORANGE OR WHITE V.I.P. SHEETING OR EQUIVALENT. (IOWA DOT TYPE VII SHEETING).
10. AT THE TIME OF INITIAL SETUP OR AT THE TIME OF MAJOR STAGE CHANGES, 100 PERCENT OF EACH TYPE OF DEVICE (SIGNS, CONES, TUBULAR MARKERS, DRUMS, BARRICADES, VERTICAL PANELS, CHANGEABLE MESSAGE SIGNS, AND PAVEMENT MARKINGS) SHALL BE CLASSIFIED AS ACCEPTABLE BY THE REQUIREMENT OF THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), "QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES 1992." THROUGHOUT THE DURATION OF THE PROJECT, UNACCEPTABLE DEVICES OR SITUATIONS THAT ARE FOUND ON THE JOBSITE AS DETERMINED BY BEFORE MENTIONED PUBLICATION SHALL BE REPLACED OR THE SITUATION CORRECTED WITHIN 12 HOURS OF INITIAL NOTIFICATIONS BY THE ENGINEER.
11. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NONWORKING HOURS SHALL BE AS APPROVED BY THE ENGINEER, AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH THE PROPERTY OWNER.
12. AT EACH SIDEWALK CLOSURE LOCATION PLACE TYPE II BARRICADES WITH "SIDEWALK CLOSED" SIGNS AT EACH CLOSURE END AND PLACE "SIDEWALK CLOSED AHEAD" SIGNS ALONG THE SIDEWALK AT NEAREST STREET INTERSECTIONS ON EACH SIDE OF THE CLOSURE LOCATION IN ACCORDANCE WITH THE MUTCD.

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
GENERAL NOTES

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PAVING NOTES:

1. PAVING SHALL BE COMPLETED IN ACCORDANCE WITH DIVISION 7 OF THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER FOR APPROVAL IN ACCORDANCE WITH SECTIONS 1050, 1.05 AND 7010, 1.03 OF THE STANDARD SPECIFICATIONS:
   a. PCC PAVING MIX DESIGN
   b. MATURITY CURVES FOR PAVING MIXES AND MATURITY READING RESULTS
3. PAVEMENT DESIGN SHALL INCLUDE A MINIMUM STRENGTH OF 4,000 PSI.
4. QUALITY CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 7010, 3.08 'QUALITY CONTROL' OF THE STANDARD SPECIFICATIONS.
5. IN ACCORDANCE WITH SECTION 7010, 3.02, K OF THE STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL CLEAN AND SEAL ALL JOINTS BEFORE ANY PORTION OF THE NEWLY CONSTRUCTED PAVEMENT IS OPENED TO THE CONTRACTOR'S EQUIPMENT.
6. THE CONTRACTOR SHALL OPEN NEWLY CONSTRUCTED PAVEMENT TO TRAFFIC IN ACCORDANCE WITH SECTION 7010, 3.06 OF THE STANDARD SPECIFICATIONS. ALL NEWLY CONSTRUCTED PAVEMENT SHALL BE SCRAPED AND SWEPT CLEAN PRIOR TO OPENING TO TRAFFIC.
7. THE CONTRACTOR SHALL PROTECT PAVEMENT IN ACCORDANCE WITH SECTION 7010, 3.05 OF THE STANDARD SPECIFICATIONS AND SHALL NOT USE NEWLY CONSTRUCTED PAVEMENT AS AN AREA OF STOCKPILING MATERIALS.
8. DROP CURBS SHALL BE CONSTRUCTED AT INTERSECTIONS FOR PEDESTRIAN RAMPS AND SHALL BE CONSIDERED INCIDENTAL TO PAVING.
9. PEDESTRIAN RAMPS SHALL INCLUDE "DETECTABLE WARNING" PLATE.
10. ALL UTILITY FIXTURES (WATER VALVE BOXES, MANHOLES, AND STORM SEWER INTAKES) SHALL BE SET TO THEIR CORRESPONDING PAVEMENT ELEVATIONS.

GRADING NOTES

1. ALL GRADING OPERATIONS SHALL BE COMPLETED IN ACCORDANCE WITH DIVISION 2 OF THE SPECIFICATIONS.
2. THE PROPOSED CONTOURS ARE SHOWN ARE TO FINISH GROUND/TOP OF PAVEMENT.
3. THE CONTRACTOR SHALL SHAPE GRADE AREAS TO MAINTAIN SURFACE DRAINAGE AT ALL TIMES.
4. THE CONTRACTOR SHALL BACKFILL CURBS AS SOON AS POSSIBLE UPON COMPLETION OF CURB INSTALLATION.
5. DEWATERING (IF NECESSARY) IS CONTRACTOR'S RESPONSIBILITY AND SHALL BE CONSIDERED INCIDENTAL.
6. CONTRACTOR SHALL MINIMIZE COMPACTION OF TOPSOIL TO THE EXTENT PRACTICABLE.

SANITARY SEWER NOTES

1. SANITARY SEWER INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH DIVISIONS 3, 4, AND 6 OF THE SPECIFICATIONS
2. PRIOR TO INSTALLING PIPE, THE CONTRACTOR SHALL PLUG THE DOWNSTREAM CONNECTION POINTS AND LEAVE PLUGGED UNTIL NEW SEWER PIPE AND MANHOLE CASTINGS ARE IN PLACE. ALL WATER SHALL BE PUMPED OUT AND THE SEWER SHALL BE CLEAN BEFORE REMOVING PLUG.
3. SANITARY SEWER BEDDING SHALL BE CLASS F-3 BEDDING UNLESS OTHERWISE SPECIFIED.
4. SANITARY SEWER SERVICE STUBS SHALL BE STUBBED TO 10 FEET BEYOND THE ROW OF WAY.
5. MANHOLE CASTINGS IN SHALL BE [2 PIECE FIXED CASTINGS/ 3 PIECE FLOATING CASTING]. ALL MANHOLE CASTINGS SHALL BE BOLTED TO THE STRUCTURE AT ALL ATTACHMENT HOLE LOCATIONS IN THE CASTING. ALL CASTINGS SHALL COMPLY WITH FIGURES SW-601. CONCRETE BOX OUTS FOR MANHOLES IN PCC PAVING SHALL COMPLY WITH FIGURE PV-103. CONCRETE BOX OUTS FOR MANHOLES IN HMA PAVING SHALL COMPLY WITH FIGURE PV-201. ALL MANHOLES IN PAVING SHALL BE GASKETED.
6. UPON COMPLETION OF THE SANITARY SEWER MAIN INSTALLATION, THE CONTRACTOR SHALL FURNISH THE CITY A FLASH DRIVE OF THE TELEVISED PIPE INSPECTION, TO BE USED AS A BASIS OF ACCEPTANCE OF THE WORK. TELEVISED PIPE INSPECTION SHALL BE COMPLETED WITHIN 30 DAYS OF THE PIPE INSTALLATION AND PRIOR TO THE PLACEMENT OF ANY PAVING.

STORM SEWER NOTES

1. STORM SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH DIVISIONS 3, 4, AND 6 OF THE SPECIFICATIONS.
2. STORM SEWER BEDDING SHALL BE CLASS R-2.
3. MANHOLE CASTINGS IN PAVEMENT SHALL BE 3 PIECE FLOATING CASTING.ALL CASTINGS SHALL COMPLY WITH FIGURES SW-602. CONCRETE BOX OUTS FOR MANHOLES IN PCC PAVING SHALL COMPLY WITH FIGURE PV-103. CONCRETE BOX OUTS FOR MANHOLES IN HMA PAVING SHALL COMPLY WITH FIGURE PV-201. ALL MANHOLES IN PAVING SHALL BE GASKETED.
4. STANDARD 48-INCH MANHOLES SHALL BE TYPE SW-301 (SANITARY SEWER), 60 INCH OR LARGER SHALL BE TYPE SW-401 (STORM SEWER).
5. INTAKE CASTINGS SHALL BE SW-603 TYPE R OR Q.
6. FOOTINGS SHALL BE INSTALLED UNDER ALL FLARED END SECTIONS IN ACCORDANCE WITH SECTION 4030 OF THE SPECIFICATIONS AND WILL BE CONSIDERED INCIDENTAL TO FLARED END SECTIONS.
7. UPON COMPLETION OF THE STORM SEWER INSTALLATION, THE CONTRACTOR SHALL FURNISH THE CITY A FLASH DRIVE OF THE TELEVISED PIPE INSPECTION, TO BE USED AS A BASIS OF ACCEPTANCE OF THE WORK. TELEVISED PIPE INSPECTION SHALL BE COMPLETED WITHIN 30 DAYS OF PIPE INSTALLATION AND PRIOR TO THE PLACEMENT OF ANY PAVING.
8. RCP PLUGS SHALL BE CONSIDERED INCIDENTAL TO STORM SEWER CONSTRUCTION.
9. THE CONTRACTOR SHALL REPAIR ANY FIELD TILE ENCOUNTERED DURING CONSTRUCTION OF THIS PROJECT (WHETHER SHOWN ON THE PLAN OR NOT) BY SPLICING OR CONNECTING THE TILE TO THE NEW STORM SEWER SYSTEM.

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
GENERAL NOTES

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C.02

ESTIMATED PROJECT QUANTITIES - BASE BID

ITEM NO.	ITEM CODE	ITEM	UNIT	CITY	AS-BUILT QTY.	DMWW	AS-BUILT QTY.	TOTAL EST. QUANTITY	AS-BUILT QTY.
1	2010-C	CLEARING AND GRUBBING	LS	1		0		1	
2	2010-D-1	TOPSOIL, ON-SITE	CY	620		0		620	
3	2010-E	EXCAVATION, CLASS 10	CY	700		0		700	
4	2010-F	BELOW GRADE EXCAVATION (CORE OUT)	CY	0		0		0	
5	2010-G	SUBGRADE PREPARATION	SY	7900		0		7900	
6	2010-I	SUBGRADE TREATMENT, POLYMER GRID	SY	0		0		0	
7	2010-J	SUBBASE, MODIFIED, 8 INCHES	SY	7900		0		7900	
8	3010-D	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	CY	0		0		0	
9	4020-A-1	STORM SEWER, TRENCHED, PP, 8 INCH	LF	12		0		12	
10	4020-A-1	STORM SEWER, TRENCHED, 12 INCH	LF	123		0		123	
11	4020-A-1	STORM SEWER, TRENCHED, 15 INCH	LF	1458		0		1458	
12	4020-A-1	STORM SEWER, TRENCHED, 18 INCH	LF	16		0		16	
13	4020-A-1	STORM SEWER, TRENCHED, 36 INCH	LF	60		0		60	
14	4020-A-1	STORM SEWER, TRENCHED, RCP, 37" X 23" ARCH	LF	50		0		50	
15	4020-D	REMOVAL OF STORM SEWER, LESS THAN 36 INCH	LF	348		0		348	
16	4040-A	SUBDRAIN, PERFORATED HDPE, 6 INCH	LF	3330		0		3330	
17	4040-C-1	SUBDRAIN CLEANOUT, TYPE A-1, 6 INCH	EA	16		0		16	
18	4040-D-1	SUBDRAIN OUTLETS AND CONNECTIONS, CMP, 6 INCH	EA	14		0		14	
19	4050-H-1	SPOT REPAIRS BY PIPE REPLACEMENT, PVC, 4 INCH	EA	2		0		2	
20	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 6 INCH WITH TRACER WIRE	LF	0		10		10	
21	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 8 INCH WITH TRACER WIRE	LF	0		1840		1840	
22	SPEC. PROV.	FITTING BY WEIGHT, DUCTILE IRON	LB	0		6420		6420	
23	SPEC. PROV.	WATER SERVICE TRANSFER, COPPER, 1 INCH , SAME SIDE	EA	0		23		23	
24	SPEC. PROV.	WATER SERVICE TRANSFER, COPPER, 1 INCH , OPPOSITE SIDE	EA	0		26		26	
25	SPEC. PROV.	WATER MAIN REMOVAL	LF	0		260		260	
26	SPEC. PROV.	VALVE, GATE, 6 INCH	EA	0		1		1	
27	SPEC. PROV.	VALVE, GATE, 8 INCH	EA	0		4		4	
28	SPEC. PROV.	FIRE HYDRANT ASSEMBLY	EA	0		5		5	
29	SPEC. PROV.	FLUSHING DEVICE (BLOW OFF), 2 INCH	EA	0		2		2	
30	SPEC. PROV.	FIRE HYDRANT ASSEMBLY REMOVAL	EA	0		5		5	
31	SPEC. PROV.	VALVE BOX REMOVAL	EA	0		3		3	
32	SPEC. PROV.	TAP FEE, 1", REPLACE TAP FOR WATER SERVICE	EA	0		49		49	
33	SPEC. PROV.	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE	EA	0		2		2	
34	6010-A	STORM MANHOLE, SW-401, 72 INCH	EA	2		0		2	
35	6010-B	INTAKE, SW-501	EA	2		0		2	
36	6010-B	INTAKE, SW-503	EA	1		0		1	
37	6010-B	INTAKE, SW-505	EA	10		0		10	
38	6010-B	INTAKE, SW-506	EA	1		0		1	
39	6010-B	INTAKE, SW-507	EA	2		0		2	
40	6010-B	CATCH BASIN, 18 INCH	EA	2		0		2	
41	6010-B	INTAKE, SW-516	EA	1		0		1	
42	6010-E	SANITARY MANHOLE ADJUSTMENT, MINOR	EA	6		0		6	
43	6010-E	STORM MANHOLE ADJUSTMENT, MINOR	EA	1		0		1	
44	6010-F	SANITARY MANHOLE ADJUSTMENT, MAJOR	EA	2		0		2	
45	6010-G	CONNECTION TO EXISTING MANHOLE	EA	1		0		1	
46	6010-H	REMOVE INTAKE	EA	9		0		9	
47	7010-A	PAVEMENT, PCC, 7 INCH	SY	6200		0		6200	
48	7010-999-A	JOINT PREVENTATIVE SEALANT	LF	0		0		0	
49	7010-N	COLD WEATHER PROTECTION	SY	1800		0		1800	
50	7030-A-1	REMOVAL OF SIDEWALK	SY	100		0		100	
51	7030-A-3	REMOVAL OF DRIVEWAY	SY	1190		0		1190	
52	7030-E	SIDEWALK, PCC, 4 INCH	SY	820		0		820	
53	7030-E	SIDEWALK, PCC, 4 INCH, REINFORCED	SY	10		0		10	
54	7030-E	SIDEWALK, PCC, 6 INCH	SY	130		0		130	
55	7030-G	DETECTABLE WARNING	SF	96		0		96	
56	7030-H-1	DRIVEWAY, PAVED, PCC, 6 INCH	SY	970		0		970	
57	7040-H	PAVEMENT REMOVAL	SY	5630		0		5630	
58	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	STA	2		0		2	
59	8030-A	TEMPORARY TRAFFIC CONTROL	LS	1		0		1	
60	8040-A	TRAFFIC SIGNS, TYPE A	EA	13		0		13	
61	8040-D	PERFORATED SQUARE STEEL TUBE POSTS	EA	13		0		13	
62	8040-J	REMOVE AND SALVAGE TRAFFIC SIGN ASSEMBLY	EA	0		0		0	
63	9010-D	WATERING	MGAL	91		0		91	
64	9020-A	SOD	SQ	342		0		342	
65	9030-B	PLANTS WITH WARRANTY, ORNAMENTAL TREE	EA	2		0		2	
66	9030-B	PLANTS WITH WARRANTY, DECIDUOUS TREE	EA	2		0		2	
67	9040-A-1	SWPPP PREPARATION	LS	1		0		1	
68	9040-A-2	SWPPP MANAGEMENT	LS	1		0		1	
69	9040-D-1	FILTER SOCK, 9 INCH	LF	6000		0		6000	
70	9040-O-1	STABILIZED CONSTRUCTION ENTRANCE	SY	300		0		300	
71	9040-Q-2	EROSION CONTROL MULCHING, HYDRO MULCHING	AC	1		0		1	
72	9040-T-1	INLET PROTECTION DEVICE, MAINTENCE, AND REMOVAL	EA	31		0		31	
73	9070-A	MODULAR BLOCK RETAINING WALL	SF	160		0		160	
74	11020-A	MOBILIZATION	LS	1		0		1	
75	11030-A	MAINTENANCE OF POSTAL SERVICE	LS	1		0		1	
76	11030-B	MAINTENANCE OF SOLID WASTE COLLECTION	LS	1		0		1	
77	11040-A	TEMPORARY PEDESTRIAN RESIDENTIAL ACCESS	LS	1		0		1	
78	11050-A	CONCRETE WASHOUT	LS	1		0		1	

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
QUANTITIES - BASE BID

SHEET
C.03

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2010-C	CLEARING AND GRUBBING THIS ITEM SHALL INCLUDE ALL NECESSARY TRIMMING AND CLEARING AND GRUBBING TO COMPLETE CONSTRUCTION. PROTECT ALL TREES NOT MARKED FOR REMOVAL. CONTRACTOR TO DETERMINE ANY AND ALL TRIMMING NEEDS REQUIRED FOR CONSTRUCTION OPERATIONS, INCLUDING ANY ROOTS ENCOUNTERED.
2	2010-D-1	TOPSOIL, ON-SITE TOPSOIL WITHIN THE GRADING LIMITS OF THE PROJECT SHALL BE STRIPPED, SALVAGED, AND RESPREAD AT A MINIMUM DEPTH OF 6". ITEM INCLUDES HAULING OFF-SITE TO STORE AND HAULING BACK IN IF NEEDED. SALVAGED TOPSOIL SHALL REMAIN WITHIN THE RIGHT-OF-WAY UNLESS AGREEMENTS MADE WITH THE PROPERTY OWNER. CONTRACTOR TO PAY FOR RESTORATION COST IF LOCATED OUTSIDE OF THE RIGHT OF WAY. MEASUREMENT WILL NOT BE MADE AND QUANTITY PAID WILL BE ON A PERCENT OF ITEM COMPLETE.
3	2010-E	EXCAVATION, CLASS 10 THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING SOIL, HAULING, DISPOSAL/EXPORT AND RE-GRADING AS PER PLAN TO FACILITATE ALL PROPOSED SECTIONS. ALL BORROW SHALL BE PROVIDED BY THE CONTRACTOR. EXCESS OR UNSUITABLE EXCAVATED MATERIAL WILL BECOME PROPERTY OF THE CONTRACTOR AND WILL BE HAULED OFF-SITE INCIDENTAL TO THE ITEM. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR OVERHAUL OF WASTE. RAW CUT = X CY, RAW FILL = X CY, ADJUSTED FILL (1.30 FACTOR) = X CY RAW EARTHWORK QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY ARE A COMPARISON OF EXISTING CONDITIONS AND PROPOSED CONDITIONS AND MAY INCLUDE MATERIALS AND OPERATIONS PAID FOR UNDER OTHER BID ITEMS E.G. PAVEMENT REMOVAL, STORM SEWER TRENCHED, PCC PAVEMENT, SUBBASE, TOPSOIL, COMPOST AMENDMENT, ETC. MEASUREMENT WILL NOT BE MADE AND QUANTITY PAID WILL BE ON A PERCENT OF ITEM COMPLETE.
4	2010-F	BELOW GRADE EXCAVATION (CORE OUT) BID ITEM IS TO ESTABLISH A UNIT PRICE IF UNSUITABLE OR UNSTABLE MATERIAL IS ENCOUNTERED. PAYMENT INCLUDES, BUT IS NOT LIMITED TO, EQUIPMENT, TOOLS, LABOR, DISPOSAL OF UNSUITABLE MATERIALS, DEWATERING, DRYING, FURNISHING, AND PLACEMENT OF RECYCLED CONCRETE OR MODIFIED OR APPROVED EQUAL AS REQUIRED BY THE ENGINEER, COMPACTION AND FINISHING OF THE EXCAVATED AREA, AND ALL INCIDENTAL WORK AS MAY BE REQUIRED. TO BE USED AS DETERMINED BY ENGINEER.
5	2010-G	SUBGRADE PREPARATION TO BE USED AS APPROVED BY ENGINEER. CONTRACTOR SHALL COMPACT SUBGRADE AND PROOF ROLL. IF SUBGRADE PASSES PROOF ROLL, NO SUBGRADE PREPARATION WILL BE REQUIRED. IF REQUIRED, SUBGRADE PREPARATION MUST BE COMPLETED IN 2 - 6" LIFTS. UNDER PROPOSED PAVEMENT, PLUS 4 FEET ON EACH SIDE. MOISTURE AND DENSITY TESTING WILL BE PROVIDED BY THE OWNER. CHECKING OF SUBGRADE WILL BE PREFORMED WITH ROUGH GRADING STAKES SET 25' APART.
6	2010-I	SUBGRADE TREATMENT, POLYMER GRID THIS ITEM WILL BE USED ONLY WHEN THE ENGINEER DETERMINES IT IS REQUIRED TO PROVIDE SUITABLE SUBGRADE. LOCATION(S) OF TREATMENT, IF ANY, WILL BE SPECIFIED BY THE ENGINEER. MATERIAL TO HAVE NO CHUNKS LARGER THAN 2 INCHES. HAULING OFF ANY EXCESS MATERIAL GENERATED DURING THE PROCESS SHALL BE CONSIDERED INCIDENTAL. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE, ONLY QUANTITY APPROVED BY ENGINEER WILL BE PAID.
7	2010-J	SUBBASE, MODIFIED, 8 INCHES THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, COMPACTION OF SUBGRADE, FURNISHING, PLACING, COMPACTING, AND TRIMMING TO THE PROPER GRADE.
8	3010-D	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL UNSUITABLE BACKFILL MATERIAL SHALL BE REPLACED WITH GRANULAR BACKFILL OR OTHER APPROVED MATERIAL AS APPROVED BY THE ENGINEER. GRANULAR BACKFILL IS INCIDENTAL TO THIS ITEM. THIS ITEM WILL BE PAID BY THE CUBIC YARD - LOOSE VOLUME. NO RECYCLED CONCRETE OR RIP RAP ALLOWED. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE, ONLY QUANTITY APPROVED BY ENGINEER WILL BE PAID.
9	4020-A-1	STORM SEWER, TRENCHED, PP, 8 INCH
10	4020-A-1	STORM SEWER, TRENCHED, 12 INCH STORM PIPE SHALL BE REINFORCED CONCRETE PIPE OR POLYPROPYLENE. INCLUDES FLEXIBLE GASKET JOINTS AT WATERMAIN CROSSINGS. VIDEO INSPECTION TO OCCUR PRIOR TO PAVING PER SUDAS 4060. POLYPROPYLENE STORM SEWER PIPE SHALL MEET SUDAS STANDARD SPECIFICATIONS, SECTION 4020, 2.01 - L AND SHALL BE INSALLED IN ACCORDANCE WITH SUDAS FOLLOWING FIGURE 3010.103 (SW-103).
11	4020-A-1	STORM SEWER, TRENCHED, 15 INCH SEE BID ITEM #10
12	4020-A-1	STORM SEWER, TRENCHED, 18 INCH SEE BID ITEM #10
13	4020-A-1	STORM SEWER, TRENCHED, 36 INCH SEE BID ITEM #10
14	4020-A-1	STORM SEWER, TRENCHED, RCP, 37" X 23" ARCH
15	4020-D	REMOVAL OF STORM SEWER, LESS THAN 36 INCH UNIT PRICE INCLUDDES, REMOVAL, DISPOSAL, AND FURNISHING, PLACING, AND COMPACTING BACKFILL MATERIAL.
16	4040-A	SUBDRAIN, PERFORATED HDPE, 6 INCH THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION, FURNISHING AND PLACEMENT OF BEDDING AND BACKFILL MATERIAL, ENGINEERING FABRIC, CONNECTORS, AND ELBOWS AND TEES. THE LENGTH OF ELBOWS AND TEES OF THE PIPES INSTALLED WILL BE INCLUDED IN THE LENGTH OF PIPE MEASURED. POTHOLE FOR ALL EXISTING UTILITIES PRIOR TO SUBDRAIN INSTALLATION TO DETERMINE WHERE SUBDRAIN CAN BE PLACED. POTHOLING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
17	4040-C-1	SUBDRAIN CLEANOUT, TYPE A-1, 6 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION; FURNISHING CLEANOUT AND LID; AND FURNISHING, PLACING, AND COMPACTING BEDDING AND BACKFILL MATERIAL.
18	4040-D-1	SUBDRAIN OUTLETS AND CONNECTIONS, CMP, 6 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, PIPE, NON-SHRINK GROUT, COUPLING BANDS, AND RODENT GUARDS FOR PIPES 6 INCHES OR SMALLER.
19	4050-H-1	SPOT REPAIRS BY PIPE REPLACEMENT, PVC, 4 INCH THIS ITEM INCLUDES, BUT NOT LIMITED TO, REMOVAL OF EXISTING SANITARY SERVICE PIPE, TRENCH EXCAVATION, FURNISHING NEW PIPE, BENDS, FITTINGS AND BEDDING MATERIAL, INSTALLATION OF NEW WYE AT THE MAIN IF NEEDED, PLACING AND COMPACTING BACKFILL MATERIAL, CONNECTION TO EXISTING SERVICE AND MAIN, COMPACTION, TESTING AND INSPECTION. REPAIR LENGTH IS FROM SANITARY SEWER MAIN TO THE RIGHT-OF-WAY. RESIDENTS TO BE INFORMED A MINIMUM OF 48 HOURS PRIOR TO WORK ON THAT SERVICE. VISUAL INSPECTION BY ENGINEER IS REQUIRED. QUANITY IS ESTIMATED TO ESTABLISH UNIT PRICE, ONLY QUANTITY APPROVED BY ENGINEER WILL BE PAID.
20	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 6 INCH WITH TRACER WIRE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL C900 PVC PIPE OF SPECIFIED SIZE, TYPE, AND RESTRAINT IN AN OPEN TRENCH. CONTRACTOR'S EXCAVATION WILL BE IN ACCORDANCE WITH DES MOINES WATER WORKS (DMWW) RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS. WORK INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, UTILITY LOCATION AND PROTECTION, DEWATERING, FURNISHING AND INSTALLING PIPE, PLACING AND COMPACTING BEDDING AND BACKFILL MATERIAL, FURNISHING AND INSTALLING TRACER SYSTEM, PRESSURE TESTING, AND DISINFECTION ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. THE ENGINEER WILL MEASURE THE LENGTH OF PIPE INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE TO THE NEAREST 0.1 FOOT OF PVC PIPE INSTALLED AS MEASURED. DES MOINES WATER WORKS SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY SHUTDOWN. DES MOINES WATER WORKS SHALL OPERATE ALL EXISTING VALVES. THE CONTRACTOR SHALL NOT OPERATE EXISTING VALVES. A MINIMUM OF 24 HOURS NOTICE SHALL BE GIVEN TO THE AFFECTED PROPERTIES INCLUDING DOOR TO DOOR COMMUNICATIONS AND DOOR KNOCKERS LEFT BEHIND. A MAXIMUM OF 2 HOURS OF SHUTDOWN FOR ANY SINGLE BUILDING WILL BE ALLOWED WHEN SWITCHING A SERVICE TO THE NEW WATER MAIN.
21	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 8 INCH WITH TRACER WIRE SEE BID ITEM #20
22	SPEC. PROV.	FITTING BY WEIGHT, DUCTILE IRON PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL DI FITTINGS OF SPECIFIED SIZE AND TYPE INCLUDING EXCAVATION, PIPE BEDDING, POLYETHYLENE ENCASEMENT, THRUST RESTRAINT, TRACER WIRE SYSTEM, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER POUND FOR EACH FITTING INSTALLED. DETERMINATION OF THE TOTAL WEIGHT OF FITTINGS, IN POUNDS, SHALL BE BASED ON THE STANDARD FITTING WEIGHTS PUBLISHED IN AWWA C153 FOR DUCTILE IRON COMPACT FITTINGS.
23	SPEC. PROV.	WATER SERVICE TRANSFER, COPPER, 1 INCH , SAME SIDE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 1-INCH WATER SERVICE USING OPEN CUT METHOD FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM. A.Y MCDONALD CURB STOP RECEPTACLE #5639 SHALL BE USE FOR CURB STIOS WITHIN SIDEWALK OR DRIVEWAYS. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE AND TRENCH USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR. A MAXIMUM OF 2 HOURS OF SHUTDOWN FOR ANY SINGLE BUILDING WILL BE ALLOWED WHEN SWITCHING A SERVICE TO THE NEW WATER MAIN.
24	SPEC. PROV.	WATER SERVICE TRANSFER, COPPER, 1 INCH , OPPOSITE SIDE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 1-INCH WATER SERVICE USING OPEN CUT METHOD FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM. A.Y MCDONALD CURB STOP RECEPTACLE #5639 SHALL BE USE FOR CURB STIOS WITHIN SIDEWALK OR DRIVEWAYS. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE AND TRENCH USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR. A MAXIMUM OF 2 HOURS OF SHUTDOWN FOR ANY SINGLE BUILDING WILL BE ALLOWED WHEN SWITCHING A SERVICE TO THE NEW WATER MAIN.
25	SPEC. PROV.	WATER MAIN REMOVAL EXISTING PIPE SHALL NOT BE REMOVED UNTIL NEW WATERMAIN INSTALLATION IS TO BE DETEREMINED TO BE COMPLETE BY DMWW.
26	SPEC. PROV.	VALVE, GATE, 6 INCH PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL VALVE OF SPECIFIED SIZE AND TYPE WITH VALVE JOINTS, RETAINER GLANDS, VALVE BOXES, VALVE BOX ADAPTER, TRACER WIRE, POLYETHYLENE ENCASEMENT MATERIAL AND THRUST RESTRAINT INCLUDING EXCAVATION, PIPE BEDDING, BACKFILL, COMPACTION, PRESSURE TESTING AND DISINFECTION, ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS.
27	SPEC. PROV.	VALVE, GATE, 8 INCH SEE BID ITEM #26
28	SPEC. PROV.	FIRE HYDRANT ASSEMBLY PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL FIRE HYDRANT, MECHANICAL JOINT BY ANCHOR JOINT (MJ X AJ) TEE OR ANCHOR SPOOL, 6-INCH VALVE, VALVE BOX, VALVE BOX ADAPTER, 6-INCH DUCTILE IRON RESTRAINED JOINT PIPING AS REQUIRED, FITTINGS AS REQUIRED TO COMPLETE CONNECTION, BONDING CABLES, POLYETHYLENE ENCASEMENT, THRUST BLOCK, TRACER WIRE SYSTEM WITH RECEPTACLE POST INCLUDING EXCAVATION, BACKFILL, COMPACTION, PRESSURE TESTING AND DISINFECTION, ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. THE ENGINEER WILL COUNT THE NUMBER OF FIRE HYDRANTS INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH FIRE HYDRANT INSTALLED.
29	SPEC. PROV.	FLUSHING DEVICE (BLOW OFF), 2 INCH
30	SPEC. PROV.	FIRE HYDRANT ASSEMBLY REMOVAL
31	SPEC. PROV.	VALVE BOX REMOVAL
32	SPEC. PROV.	TAP FEE, 1", REPLACE TAP FOR WATER SERVICE PLUMBER'S PERFORMING WATER SERVICE INSTALLATION ARE REQUIRED TO SCHEDULE TAP BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. CONTRACTOR WILL PAY TAP FEE. CONTRACTOR'S PLUMBER MUST NOT HAVE PAST DUE ACCOUNTS WITH DMWW AT TIME OF TAP REQUEST OR THE TAP WILL BE DENIED. PLUMBER WILL BE REQUIRED TO SUPPLY A SURETY BOND WITH A MINIMUM VALUE OF $20,000 (BOND MUST BE UPDATED YEARLY UNLESS IT IS A CONTINUOUS BOND). PLUMBER WILL PROVIDE PLUMBING PERMIT NUMBER FROM CITY OR COUNTY WHERE PROJECT IS LOCATED AND PROPERTY ADDRESS WHERE REPLACEMENT TAPS ARE REQUIRED. THE ENGINEER WILL COUNT THE NUMBER OF 1-INCH REPLACEMENT TAPS. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH 1-INCH REPLACEMENT TAP.
33	SPEC. PROV.	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR INSTALLATION OF THE TAPPING SLEEVE AND VALVE BY DMWW. WORK INCLUDES, BUT IS NOT LIMITED TO, EXCAVATION, SHORING, CLEANING THE MAIN PRIOR TO TAPPING, POLYETHYLENE ENCASEMENT, THRUST BLOCKING, SETTING OF THE VALVE BOX WITH VALVE BOX ADAPTER, BACKFILL, AND COMPACTION. DMWW ENGINEERING TECHNICIAN WILL SCHEDULE TAP AND WILL REQUEST TAPPING FEE BE CHARGED TO DMWW ENGINEERING PROJECT NUMBER. TAPPING FEE WILL BE PAID BY DMWW. TAPPING SLEEVE AND VALVE WILL BE PROVIDED AND INSTALLED BY DMWW. CONTRACTOR WILL HAVE EXCAVATION PREPARED AND PROPERLY SHORED IN ADVANCE OF SCHEDULED TAP IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS. THE ENGINEER WILL COUNT THE NUMBER OF EXCAVATIONS COMPLETED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR THE NUMBER OF EXCAVATIONS.
34	6010-A	STORM MANHOLE, SW-401, 72 INCH EXCAVATION, FURNISHING BEDDING MATERIAL, PLACING BEDDING AND BACKFILL MATERIAL, COMPACTION, BASE, STRUCTURAL CONCRETE, REINFORCING STEEL, PRECAST UNITS (IF USED), CASTINGS, AND ADJUSTMENT RINGS. ANY SHORING SHALL BE CONSIDERED INCIDENTAL. CASTING TO BE TYPE B THREE-PIECE FLOATING CASTINGS IN PAVEMENT AND TYPE A IN TURF AND SHALL BE STAMPED WITH "STORM". ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL.

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35	6010-B	INTAKE, SW-501 INTAKES MAY BE CAST IN PLACE, PRECAST OR ADS NYLOPLAST EQUIVALENT STRUCTURE. ADJUSTING RINGS TO BE CRETEX PRO-RINGS OR APPROVED EQUAL. IF NYLOPLAST STURCTURES ARE TO BE USED, THE CONTRACTOR IS TO PROVIDE DOCUMENTATION OF PREVIOUS INSTALLATION OR COORDINATE TO HAVE SOMEONE FROM ADS PRESENT DURING THE FIRST 3 INSTALLATION OF STRUCTURES.
36	6010-B	INTAKE, SW-503 INTAKES MAY BE CAST IN PLACE, PRECAST OR ADS NYLOPLAST EQUIVALENT STRUCTURE. ADJUSTING RINGS TO BE CRETEX PRO-RINGS OR APPROVED EQUAL. IF NYLOPLAST STURCTURES ARE TO BE USED, THE CONTRACTOR IS TO PROVIDE DOCUMENTATION OF PREVIOUS INSTALLATION OR COORDINATE TO HAVE SOMEONE FROM ADS PRESENT DURING THE FIRST 3 INSTALLATION OF STRUCTURES. CASTING SHALL BE STAMPED WITH "STORM". ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL.
37	6010-B	INTAKE, SW-505 SEE BID ITEM #36
38	6010-B	INTAKE, SW-506
39	6010-B	INTAKE, SW-507
40	6010-B	CATCH BASIN, 18 INCH INSTALLATION PER MANUFACTURERS REQUIREMENTS. FLAT GRATED CASTING TO BE USED.
41	6010-B	INTAKE, SW-516
42	6010-E	SANITARY MANHOLE ADJUSTMENT, MINOR SEE M SHEETS FOR LOCATION, ADJUSTMENT NEEDS, AND MODIFICATION NEEDS. CASTING TO BE TYPE B THREE-PIECE FLOATING CASTINGS WITH "SANITARY SEWER" STAMPED ON LID. MANUFACTURE TO BE NEENAH, EAST JORDAN, DETER OR APPROVED EQUAL. ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL. NEW INTERNAL CHIMNEY SEALS TO BE INCLUDED.
43	6010-E	STORM MANHOLE ADJUSTMENT, MINOR SEE M SHEETS FOR LOCATION, ADJUSTMENT NEEDS, AND MODIFICATION NEEDS. CASTING TO BE TYPE B THREE-PIECE FLOATING CASTINGS WITH "SANITARY SEWER" STAMPED ON LID. MANUFACTURE TO BE NEENAH, EAST JORDAN, DETER OR APPROVED EQUAL. ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL. NEW INTERNAL CHIMNEY SEALS TO BE INCLUDED.
44	6010-F	SANITARY MANHOLE ADJUSTMENT, MAJOR SEE BID ITEM #42
45	6010-G	CONNECTION TO EXISTING MANHOLE
46	6010-H	REMOVE INTAKE UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL OF CASTING, CONCRETE, AND REINFORCEMENT; PLUGGING PIPES; FILLING REMAINING STRUCTURE WITH FLOWABLE MORTAR; AND PLACING COMPACTED FILL OVER STRUCTURE TO FINISHED GRADE.
47	7010-A	PAVEMENT, PCC, 7 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING AND PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, BOXOUTS FOR FIXTURES, PAVEMENT SMOOTHNESS TESTING, AND QUALITY CONTROL FOR STRINGLESS PAVING. NO EXTRA PAYMENT FOR COLD WEATHER PAVING. CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED.
48	7010-999-A	JOINT PREVENTATIVE SEALANT IF BID ITEM FALLS WITHIN SUDAS SPECIFICATION SECTION, BUT NOT IDENTIFIED IN SUDAS
49	7010-N	COLD WEATHER PROTECTION 1. WHEN COLD WEATHER PROTECTION IS REQUIRED AND AUTHORIZED BY THE ENGINEER, MEASUREMENT WILL BE IN SQUARE YARDS OF THE AREA OF PCC PAVEMENT TO BE PROTECTED. THE AREA OF MANHOLES, INTAKES, OR OTHER FIXTURES IN THE PAVEMENT WILL NOT BE DEDUCTED FROM THE MEASURED PAVEMENT AREA. 2. PAYMENT WILL BE AT THE UNIT PRICE OF $2.50 PER SQUARE YARD. PAYMENT WILL BE LIMITED TO PROTECTION NECESSARY ONLY WITHIN THE CONTRACT PERIOD AND WITH PRIOR AUTHORIZATION OF THE WORK BY THE ENGINEER. NO PRICE MODIFICATIONS WILL BE MADE FOR QUANTITY UNDERRUNS OR OVERRUNS FOR THIS ITEM. COLD WEATHER PROTECTION NECESSARY AFTER THE COMPLETION DATE, AFTER ALL CALENDAR DAYS HAVE PASSED, OR AFTER ALL WORKING DAYS HAVE BEEN USED IS INCIDENTAL TO THE WORK REGARDLESS IF A QUANTITY WAS INCLUDED IN THE CONTRACT. 3. INCLUDES: UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, ALL LABOR, MATERIALS, AND EQUIPMENT TO INSTALL AND REMOVE ALL REQUIRED PROTECTION.
50	7030-A-1	REMOVAL OF SIDEWALK ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS.
51	7030-A-3	REMOVAL OF DRIVEWAY SEE BID ITEM #50
52	7030-E	SIDEWALK, PCC, 4 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADE ADJUSTMENTS AT DRIVEWAYS AND OTHER INTERSECTIONS, SUBGRADE PREPARATION, FORMWORK, ADDITIONAL THICKNESS AT THICKENED EDGES, JOINTING, SAMPLING, SLOPE AND SMOOTHNESS TESTING AND CORRECTION, AND TESTING. CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER.
53	7030-E	SIDEWALK, PCC, 4 INCH, REINFORCED UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADE ADJUSTMENTS AT DRIVEWAYS AND OTHER INTERSECTIONS, SUBGRADE PREPARATION, FORMWORK, ADDITIONAL THICKNESS AT THICKENED EDGES, JOINTING, SAMPLING, SLOPE AND SMOOTHNESS TESTING AND CORRECTION, AND TESTING. CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER.
54	7030-E	SIDEWALK, PCC, 6 INCH SEE BID ITEM #52
55	7030-G	DETECTABLE WARNING UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, STEEL BAR SUPPORTS AND MANUFACTURED DETECTABLE WARNING PANELS. DETECTABLE WARNINGS SHALL MEET CURRENT PROWAG STANDARDS. TO BE RED CAST IRON MATERIAL.
56	7030-H-1	DRIVEWAY, PAVED, PCC, 6 INCH CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
57	7040-H	PAVEMENT REMOVAL UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, SAWING, BREAKING, REMOVING, AND DISPOSING OF EXISTING PAVEMENT AND REINFORCING STEEL REGARDLESS OF PAVEMENT THICKNESS AND TYPE. ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. SEE B SHEETS FOR EXISTING PAVEMENT TYPICAL SECTIONS. EXISTING PAVEMENT DEPTHS AND TYPES MAY VARY.
58	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE
59	8030-A	TEMPORARY TRAFFIC CONTROL LUMP SUM PRICE INCLUDES, BUT IS NOT LIMITED TO, INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY TRAFFIC CONTROL; TOTAL ROADWAY CLOSURES WITH INSTALLATION AND REMOVAL OF DETOUR SIGNING AS SHOWN IN THE CONTRACT DOCUMENTS; REMOVAL AND REINSTALLATION OR COVERING OF PERMANENT TRAFFIC CONTROL DEVICES THAT CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL PLAN; MONITORING AND DOCUMENTING TRAFFIC CONTROL CONDITIONS; AND FLAGGERS. WHEN REQUIRED IN THE CONTRACT DOCUMENTS, THE FOLLOWING ARE ALSO INCLUDED IN TRAFFIC CONTROL UNLESS A SEPARATE BID ITEM IS PROVIDED: PORTABLE DYNAMIC MESSAGE SIGNS, TEMPORARY BARRIER RAIL, TEMPORARY FLOOD LIGHTING, AND PILOT CARS.
60	8040-A	TRAFFIC SIGNS, TYPE A THE SIGN BLANK, APPLICATION OF REFLECTIVE SHEETING, APPLICATION OF SCREENED MESSAGE, ALL MOUNTING HARDWARE, AND ERECTING THE SIGN. NEW STREET NAME SIGNS SHALL MATCH EXISTING.
61	8040-D	PERFORATED SQUARE STEEL TUBE POSTS UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, FABRICATING, FURNISHING, AND ERECTING THE POST AND OTHER DETAILS REQUIRED TO PROVIDE A COMPLETE INSTALLATION.
62	8040-J	REMOVE AND SALVAGE TRAFFIC SIGN ASSEMBLY
63	9010-D	WATERING THIS ITEM IS ADDITIONAL WATERING OF SOD ABOVE AND BEYOND THE WATERING SPECIFIED AND INCLUDED IN THE SOD BID ITEM PER SUDAS. ONLY TO BE USED AFTER THE MAINTENANCE PERIOD (30 DAYS). APPLY WATER UNIFORMLY AND CONSISTENTLY ON ALL SODDED AREAS. ACTUAL WATERING QUANTITIES DEPEND UPON WEATHER CONDITIONS DURING THIS PERIOD, AN ADDITIONAL 30 DAYS OR AS REQUESTED BY ENGINEER. CONTRACTOR TO PROVIDE QUANTITY AFTER EACH WATERING.
64	9020-A	SOD THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, THE PREPARATION OF SOD AND SOD BED, STAKES, FERTILIZING, WATERING, MAINTENANCE, AND CLEAN-UP. MAINTENANCE PERIOD WILL BEGIN FOLLOWING THE INSTALLATION OF SOD FOR AN ENTIRE STAGE AND CONTINUE FOR A PERIOD OF 30 DAYS. AERATING THE SOD BED SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM ALONG WITH ADJUSTMENT OF CURB STOPS TO FINISH GRADE. ALL DAMAGED CURB STOPS SHALL BE REPLACED AT THE COST OF THE CONTRACTOR.
65	9030-B	PLANTS WITH WARRANTY, ORNAMENTAL TREE BID ITEM IS TO ESTABLISH A UNIT PRICE. THE NUMBER AND LOCATION WITHIN THE PROJECT AREA (WILL BE LOCATED IN FRONT YARDS) OF TREE IS NOT KNOWN AT THIS TIME, BUT WILL BE KNOWN BY PROJECT START. TREES TO BE 1.5" CALIPER OR MINIMUM OF SIX FOOT TALL. SPECIES SHALL INCLUDE HORNBEAM, FLOWERING CRAB, REDBUD OR APPROVED EQUAL. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL TREES. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE OF PLANTING. ACCEPTANCE CONTRUES FULL PAYMENT (MINUS RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING BAG, STAKING OR GUYING, WRAPPING, AMENDED SOIL, EXCAVATION, BACKFILLING, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
66	9030-B	PLANTS WITH WARRANTY, DECIDUOUS TREE BID ITEM IS TO ESTABLISH A UNIT PRICE. THE NUMBER AND LOCATION WITHIN THE PROJECT AREA (WILL BE LOCATED IN FRONT YARDS) OF TREE IS NOT KNOWN AT THIS TIME, BUT WILL BE KNOWN BY PROJECT START. TREES TO BE 1.5" CALIPER OR MINIMUM OF SIX FOOT TALL. SPECIES SHALL INCLUDE TULIP TREE, GINKGO-MALE AND AMERICAN SYCAMORE OR APPROVED EQUAL. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL TREES. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE OF PLANTING. ACCEPTANCE CONTRUES FULL PAYMENT (MINUS RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, WATERING BAG, STAKING OR GUYING, WRAPPING, AMENDED SOIL, EXCAVATION, BACKFILLING, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
67	9040-A-1	SWPPP PREPARATION DEVELOPMENT OF A SWPPP BY THE CONTRACTOR MEETING LOCAL AND STATE AGENCY REQUIREMENTS, FILING THE REQUIRED PUBLIC NOTICES, FILING A NOTICE OF INTENT FOR COVERAGE OF THE PROJECT UNDER THE IOWA DNR NPDES GENERAL PERMIT NO. 2, AND PAYMENT OF ASSOCIATED NPDES PERMIT FEES.
68	9040-A-2	SWPPP MANAGEMENT THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, ALL WORK REQUIRED TO COMPLY WITH THE ADMINISTRATIVE PROVISIONS OF THE IOWA DNR NPDES GENERAL PERMIT NO.2; INCLUDING RECORD KEEPING, DOCUMENTATION, UPDATING THE SWPPP, FILING THE NOTICE OF DISCONTINUATION, ETC. ITEM ALSO INCLUDES WEEKLY INSPECTION REQUIRED TO SATISFY THE PROVISIONS OF GENERAL PERMIT NO. 2.
69	9040-D-1	FILTER SOCK, 9 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, ANCHORING STAKES, RESTORATION OF THE AREA TO FINISHED GRADE AND OFF-SITE DISPOSAL OF FILTER SOCKS AND ACCUMULATED SEDIMENT.
70	9040-O-1	STABILIZED CONSTRUCTION ENTRANCE UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, SUBGRADE STABILIZATION FABRIC, MAINTAINCE, AND REMOVAL.
71	9040-Q-2	EROSION CONTROL MULCHING, HYDRO MULCHING UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, FURNISHING MULCH AND TACKIFIER (IF APPLICABLE), PROVIDING EQUIPMENT SPECIFIC TO HYDROMULCHING, AND APPLYING THE MULCH TO THE SPECIFIED AREA. THIS ITEM SHALL ONLY BE USED FOR TEMPORARY EROSION CONTROL OR AS DIRECTED BY ENGINEER.
72	9040-T-1	INLET PROTECTION DEVICE, MAINTENCE, AND REMOVAL

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ESTIMATE REFERENCE NOTES - BASE BID

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		UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL OF THE DEVICE UPON COMPLETION OF THE PROJECT. THIS ITEM SHALL BE USED ON STORM SEWER CURB INLET STRUCTURES. INSPECTION SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE NPDES GENERAL PERMIT NO. 2 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR ALONG WITH INSTALLATION, MAINTENANCE, AND REMOVAL OF DEVICE.
73	9070-A	MODULAR BLOCK RETAINING WALL UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, EXCAVATION, FOUNDATION PREPARATION, FURNISHING AND PLACING WALL UNITS, GEOGRID (IF NECESSARY), LEVELING PAD, SUBDRAIN, POROUS BACKFILL MATERIAL FOR SUBDRAIN, ENGINEERING FABRIC FOR SUBDRAIN, GRANULAR BACKFILL MATERIAL, SUITABLE BACKFILL MATERIAL, AND SHORING AS NECESSARY. CONTRACTOR TO PROVIDE COLOR OPTIONS PRIOR TO ORDERING MATERIAL FOR ENGINEERS APPROVAL
74	11020-A	MOBILIZATION
		THIS ITEM IS FOR ALL PREPARATORY WORK AND COSTS INCURRED BEFORE BEGINNING THE WORK ON THE PROJECT AND DURING THE PROJECT. THIS ITEM SHALL ALSO INCLUDE THE COSTS FOR ANY STAGED CONSTRUCTION AND EQUIPMENT SET UP TO COMPLETE THE WORK. NO CHANGE IN THE CONTRACT PRICE WILL BE MADE FOR ANY CHANGE IN STAGING OR COMBINATION THEREOF. TO INCLUDE ANY MOBILICATION AFTER UTILITY POLE RELOCATION TO INSTALL SIDEWALK.
75	11030-A	MAINTENANCE OF POSTAL SERVICE
		COORDINATE WITH USPS AND PROPERTY OWNERS FOR TEMPORARY MAILBOX LOCATION WHEN NECESSARY. ENSURING MAIL SERVICE IS MAINTAINED THROUGHOUT THE PROJECT.
76	11030-B	MAINTENANCE OF SOLID WASTE COLLECTION CONTRACTOR SHALL COORDINATE WITH WASTE COLLECTION SERVICE TO ENSURE SERVICE IS MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT INCLUDING RECYCLE, YARD WASTE, CURB PICKUP ITEMS (WITH APPROPRIATE STICKERS), DUMPSTERS. LABEL ALL BINS WITH ADDRESS BY REMOVABLE MEANS. COORDINATE DUMPSTER PICKUP WITH OWNER AND HAULER AND MOVE DUMPSTER AS REQUIRED TO KEEP SCHEDULED PICK UP TIMES OR ARRANGE FOR OTHER PICK METHODS. AN ONSITE BUMPSTERS MAY BE UTILIZED FOR GARBAGE AND RECYLING.
77	11040-A	TEMPORARY PEDESTRIAN RESIDENTIAL ACCESS RECLAIMED ASPHALT PAVEMENT MAY BE USED. INCLUDES THE INSTALLATION AND MAINTENANCE OF CITY SUPPLIED RUBBER MATTING AT THE LOCATION SHOWN. THE MATTING WILL BE PLACED OVER THE GRANULAR SURFACING. METHOD OF PAYMENT: STAGE 1 - 60% OF UNIT PRICE, STAGE 2 - 40% OR REMAINING UNIT PRICE.
78	11050-A	CONCRETE WASHOUT LUMP SUM PRICE INCLUDES, BUT IS NOT LIMITED TO, PROVIDING CONCRETE WASHWATER CONTAINMENT, COLLECTION, AND DISPOSAL.

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ESTIMATE REFERENCE NOTES - BASE BID

SHEET
C.06

ESTIMATED PROJECT QUANTITIES (ALTERNATE A)

ITEM NO.	ITEM CODE	ITEM	UNIT	CITY	AS-BUILT QTY.	DMWW	AS-BUILT QTY.	TOTAL EST. QUANTITY	AS-BUILT QTY.
A1	2010-C	CLEARING AND GRUBBING	LS	1		0		1	
A2	2010-D-1	TOPSOIL, ON-SITE	CY	620		0		620	
A3	2010-E	EXCAVATION, CLASS 10	CY	700		0		700	
A4	2010-F	BELOW GRADE EXCAVATION (CORE OUT)	CY	0		0		0	
A5	2010-G	SUBGRADE PREPARATION	SY	1070		0		1070	
A6	2010-I	SUBGRADE TREATMENT, POLYMER GRID	SY	0		0		0	
A7	2010-J	SUBBASE, MODIFIED, 8 INCHES	SY	1070		0		1070	
A8	3010-D	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	CY	0		0		0	
A9	4020-A-1	STORM SEWER, TRENCHED, 36 INCH	LF	145		0		145	
A10	4020-A-1	STORM SEWER, TRENCHED, RCP, 44" X 27" ARCH	LF	132		0		132	
A11	4020-D	REMOVAL OF STORM SEWER, LESS THAN 36 INCH	LF	275		0		275	
A12	4040-A	SUBDRAIN, PERFORATED HDPE, 6 INCH	LF	524		0		524	
A13	4040-C-1	SUBDRAIN CLEANOUT, TYPE A-1, 6 INCH	EA	2		0		2	
A14	4040-D-1	SUBDRAIN OUTLETS AND CONNECTIONS, CMP, 6 INCH	EA	2		0		2	
A15	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 8 INCH WITH TRACER WIRE	LF	0		300		300	
A16	SPEC. PROV.	FITTING BY WEIGHT, DUCTILE IRON	LB	0		230		230	
A17	SPEC. PROV.	WATER MAIN REMOVAL	LF	0		40		40	
A18	6010-A	STORM MANHOLE, SW-401, 72 INCH	EA	1		0		1	
A19	6010-B	INTAKE, SW-516	EA	1		0		1	
A20	6010-E	INTAKE ADJUSTMENT, MINOR	EA	2		0		2	
A21	6010-H	REMOVE INTAKE	EA	1		0		1	
A22	7010-A	PAVEMENT, PCC, 7 INCH	SY	900		0		900	
A23	7010-999-A	JOINT PREVENTATIVE SEALANT	LF	0		0		0	
A24	7030-A-1	REMOVAL OF SIDEWALK	SY	10		0		10	
A25	7030-A-3	REMOVAL OF DRIVEWAY	SY	110		0		110	
A26	7030-E	SIDEWALK, PCC, 4 INCH	SY	150		0		150	
A27	7030-E	SIDEWALK, PCC, 6 INCH	SY	10		0		10	
A28	7030-G	DETECTABLE WARNING	SF	20		0		20	
A29	7030-H-1	DRIVEWAY, PAVED, PCC, 6 INCH	SY	110		0		110	
A30	7040-H	PAVEMENT REMOVAL	SY	770		0		770	
A31	8040-A	TRAFFIC SIGNS, TYPE A	EA	3		0		3	
A32	8040-D	PERFORATED SQUARE STEEL TUBE POSTS	EA	2		0		2	
A33	9010-D	WATERING	MGAL	13		0		13	
A34	9020-A	SOD	SQ	49		0		49	
A35	9040-D-1	FILTER SOCK, 9 INCH	LF	840		0		840	
A36	9040-T-1	INLET PROTECTION DEVICE, MAINTENCE, AND REMOVAL	EA	4		0		4	
A37	9060-D	REMOVAL AND REINSTALLATION OF EXISTING FENCE, CHAIN LINK FENCE, RESIDENTIAL	LF	80		0		80	
A38	11040-A	TEMPORARY PEDESTRIAN RESIDENTIAL ACCESS	LS	1		0		1	

WINDSOR HEIGHTS
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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
QUANTITIES - ALTERNATE A

SHEET
C.07

ESTIMATE REFERENCE INFORMATION (ALTERNATE A)

ITEM NO.	ITEM CODE	DESCRIPTION
A1	2010-C	CLEARING AND GRUBBING THIS ITEM SHALL INCLUDE ALL NECESSARY TRIMMING AND CLEARING AND GRUBBING TO COMPLETE CONSTRUCTION. PROTECT ALL TREES NOT MARKED FOR REMOVAL. CONTRACTOR TO DETERMINE ANY AND ALL TRIMMING NEEDS REQUIRED FOR CONSTRUCTION OPERATIONS, INCLUDING ANY ROOTS ENCOUNTERED.
A2	2010-D-1	TOPSOIL, ON-SITE TOPSOIL WITHIN THE GRADING LIMITS OF THE PROJECT SHALL BE STRIPPED, SALVAGED, AND RESPREAD AT A MINIMUM DEPTH OF 6". ITEM INCLUDES HAULING OFF-SITE TO STORE AND HAULING BACK IN IF NEEDED. SALVAGED TOPSOIL SHALL REMAIN WITHIN THE RIGHT-OF-WAY UNLESS AGREEMENTS MADE WITH THE PROPERTY OWNER. CONTRACTOR TO PAY FOR RESTORATION COST IF LOCATED OUTSIDE OF THE RIGHT OF WAY. MEASUREMENT WILL NOT BE MADE AND QUANTITY PAID WILL BE ON A PERCENT OF ITEM COMPLETE.
A3	2010-E	EXCAVATION, CLASS 10 THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING SOIL, HAULING, DISPOSAL/EXPORT AND RE-GRADING AS PER PLAN TO FACILITATE ALL PROPOSED SECTIONS. ALL BORROW SHALL BE PROVIDED BY THE CONTRACTOR. EXCESS OR UNSUITABLE EXCAVATED MATERIAL WILL BECOME PROPERTY OF THE CONTRACTOR AND WILL BE HAULED OFF-SITE INCIDENTAL TO THE ITEM. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR OVERHAUL OF WASTE. RAW CUT = X CY, RAW FILL = X CY, ADJUSTED FILL (1.30 FACTOR) = X CY RAW EARTHWORK QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY ARE A COMPARISON OF EXISTING CONDITIONS AND PROPOSED CONDITIONS AND MAY INCLUDE MATERIALS AND OPERATIONS PAID FOR UNDER OTHER BID ITEMS E.G. PAVEMENT REMOVAL, STORM SEWER TRENCHED, PCC PAVEMENT, SUBBASE, TOPSOIL, COMPOST AMENDMENT, ETC. MEASUREMENT WILL NOT BE MADE AND QUANTITY PAID WILL BE ON A PERCENT OF ITEM COMPLETE.
A4	2010-F	BELOW GRADE EXCAVATION (CORE OUT) BID ITEM IS TO ESTABLISH A UNIT PRICE IF UNSUITABLE OR UNSTABLE MATERIAL IS ENCOUNTERED. PAYMENT INCLUDES, BUT IS NOT LIMITED TO, EQUIPMENT, TOOLS, LABOR, DISPOSAL OF UNSUITABLE MATERIALS, DEWATERING, DRYING, FURNISHING, AND PLACEMENT OF RECYCLED CONCRETE OR MODIFIED OR APPROVED EQUAL AS REQUIRED BY THE ENGINEER, COMPACTION AND FINISHING OF THE EXCAVATED AREA, AND ALL INCIDENTAL WORK AS MAY BE REQUIRED. TO BE USED AS DETERMINED BY ENGINEER.
A5	2010-G	SUBGRADE PREPARATION TO BE USED AS APPROVED BY ENGINEER. CONTRACTOR SHALL COMPACT SUBGRADE AND PROOF ROLL. IF SUBGRADE PASSES PROOF ROLL, NO SUBGRADE PREPARATION WILL BE REQUIRED. IF REQUIRED, SUBGRADE PREPARATION MUST BE COMPLETED IN 2 - 6" LIFTS. UNDER PROPOSED PAVEMENT, PLUS 4 FEET ON EACH SIDE. MOISTURE AND DENSITY TESTING WILL BE PROVIDED BY THE OWNER. CHECKING OF SUBGRADE WILL BE PREFORMED WITH ROUGH GRADING STAKES SET 25' APART.
A6	2010-I	SUBGRADE TREATMENT, POLYMER GRID THIS ITEM WILL BE USED ONLY WHEN THE ENGINEER DETERMINES IT IS REQUIRED TO PROVIDE SUITABLE SUBGRADE. LOCATION(S) OF TREATMENT, IF ANY, WILL BE SPECIFIED BY THE ENGINEER. MATERIAL TO HAVE NO CHUNKS LARGER THAN 2 INCHES. HAULING OFF ANY EXCESS MATERIAL GENERATED DURING THE PROCESS SHALL BE CONSIDERED INCIDENTAL. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE, ONLY QUANTITY APPROVED BY ENGINEER WILL BE PAID.
A7	2010-J	SUBBASE, MODIFIED, 8 INCHES THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, COMPACTION OF SUBGRADE, FURNISHING, PLACING, COMPACTING, AND TRIMMING TO THE PROPER GRADE.
A8	3010-D	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL UNSUITABLE BACKFILL MATERIAL SHALL BE REPLACED WITH GRANULAR BACKFILL OR OTHER APPROVED MATERIAL AS APPROVED BY THE ENGINEER. GRANULAR BACKFILL IS INCIDENTAL TO THIS ITEM. THIS ITEM WILL BE PAID BY THE CUBIC YARD - LOOSE VOLUME. NO RECYCLED CONCRETE OR RIP RAP ALLOWED. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE, ONLY QUANTITY APPROVED BY ENGINEER WILL BE PAID.
A9	4020-A-1	STORM SEWER, TRENCHED, 36 INCH SEE BID ITEM #11
A10	4020-A-1	STORM SEWER, TRENCHED, RCP, 44" X 27" ARCH
A11	4020-D	REMOVAL OF STORM SEWER, LESS THAN 36 INCH UNIT PRICE INCLUDDES, REMOVAL, DISPOSAL, AND FURNISHING, PLACING, AND COMPACTING BACKFILL MATERIAL.
A12	4040-A	SUBDRAIN, PERFORATED HDPE, 6 INCH THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION, FURNISHING AND PLACEMENT OF BEDDING AND BACKFILL MATERIAL, ENGINEERING FABRIC, CONNECTORS, AND ELBOWS AND TEES. THE LENGTH OF ELBOWS AND TEES OF THE PIPES INSTALLED WILL BE INCLUDED IN THE LENGTH OF PIPE MEASURED. POTHOLE FOR ALL EXISTING UTILITIES PRIOR TO SUBDRAIN INSTALLATION TO DETERMINE WHERE SUBDRAIN CAN BE PLACED. POTHOLING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
A13	4040-C-1	SUBDRAIN CLEANOUT, TYPE A-1, 6 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION; FURNISHING CLEANOUT AND LID; AND FURNISHING, PLACING, AND COMPACTING BEDDING AND BACKFILL MATERIAL.
A14	4040-D-1	SUBDRAIN OUTLETS AND CONNECTIONS, CMP, 6 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, PIPE, NON-SHRINK GROUT, COUPLING BANDS, AND RODENT GUARDS FOR PIPES 6 INCHES OR SMALLER.
A15	SPEC. PROV.	WATER MAIN, TRENCHED, PVC C900 (DR 18), 8 INCH WITH TRACER WIRE
A16	SPEC. PROV.	FITTING BY WEIGHT, DUCTILE IRON PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL DI FITTINGS OF SPECIFIED SIZE AND TYPE INCLUDING EXCAVATION, PIPE BEDDING, POLYETHYLENE ENCASEMENT, THRUST RESTRAINT, TRACER WIRE SYSTEM, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER POUND FOR EACH FITTING INSTALLED. DETERMINATION OF THE TOTAL WEIGHT OF FITTINGS, IN POUNDS, SHALL BE BASED ON THE STANDARD FITTING WEIGHTS PUBLISHED IN AWWA C153 FOR DUCTILE IRON COMPACT FITTINGS.
A17	SPEC. PROV.	WATER MAIN REMOVAL EXISTING PIPE SHALL NOT BE REMOVED UNTIL NEW WATERMAIN INSTALLATION IS TO BE DETEREMINED TO BE COMPLETE BY DMWW.
A18	6010-A	STORM MANHOLE, SW-401, 72 INCH EXCAVATION, FURNISHING BEDDING MATERIAL, PLACING BEDDING AND BACKFILL MATERIAL, COMPACTION, BASE, STRUCTURAL CONCRETE, REINFORCING STEEL, PRECAST UNITS (IF USED), CASTINGS, AND ADJUSTMENT RINGS. ANY SHORING SHALL BE CONSIDERED INCIDENTAL. CASTING TO BE TYPE B THREE-PIECE FLOATING CASTINGS IN PAVEMENT AND TYPE A IN TURF AND SHALL BE STAMPED WITH "STORM". ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL.
A19	6010-B	INTAKE, SW-516
A20	6010-E	INTAKE ADJUSTMENT, MINOR
A21	6010-H	REMOVE INTAKE UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL OF CASTING, CONCRETE, AND REINFORCEMENT; PLUGGING PIPES; FILLING REMAINING STRUCTURE WITH FLOWABLE MORTAR; AND PLACING COMPACTED FILL OVER STRUCTURE TO FINISHED GRADE.
A22	7010-A	PAVEMENT, PCC, 7 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING AND PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, BOXOUTS FOR FIXTURES, PAVEMENT SMOOTHNESS TESTING, AND QUALITY CONTROL FOR STRINGLESS PAVING. NO EXTRA PAYMENT FOR COLD WEATHER PAVING. CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED.
A23	7010-999-A	JOINT PREVENTATIVE SEALANT IF BID ITEM FALLS WITHIN SUDAS SPECIFICATION SECTION, BUT NOT IDENTIFIED IN SUDAS
A24	7030-A-1	REMOVAL OF SIDEWALK ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS.
A25	7030-A-3	REMOVAL OF DRIVEWAY SEE BID ITEM #A24
A26	7030-E	SIDEWALK, PCC, 4 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADE ADJUSTMENTS AT DRIVEWAYS AND OTHER INTERSECTIONS, SUBGRADE PREPARATION, FORMWORK, ADDITIONAL THICKNESS AT THICKENED EDGES, JOINTING, SAMPLING, SLOPE AND SMOOTHNESS TESTING AND CORRECTION, AND TESTING. CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER.
A27	7030-E	SIDEWALK, PCC, 6 INCH SEE BID ITEM #A26
A28	7030-G	DETECTABLE WARNING UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, STEEL BAR SUPPORTS AND MANUFACTURED DETECTABLE WARNING PANELS. DETECTABLE WARNINGS SHALL MEET CURRENT PROWAG STANDARDS. TO BE RED CAST IRON MATERIAL.
A29	7030-H-1	DRIVEWAY, PAVED, PCC, 6 INCH CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
A30	7040-H	PAVEMENT REMOVAL UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, SAWING, BREAKING, REMOVING, AND DISPOSING OF EXISTING PAVEMENT AND REINFORCING STEEL REGARDLESS OF PAVEMENT THICKNESS AND TYPE. ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. SEE B SHEETS FOR EXISTING PAVEMENT TYPICAL SECTIONS. EXISTING PAVEMENT DEPTHS AND TYPES MAY VARY.
A31	8040-A	TRAFFIC SIGNS, TYPE A THE SIGN BLANK, APPLICATION OF REFLECTIVE SHEETING, APPLICATION OF SCREENED MESSAGE, ALL MOUNTING HARDWARE, AND ERECTING THE SIGN. NEW STREET NAME SIGNS SHALL MATCH EXISTING.
A32	8040-D	PERFORATED SQUARE STEEL TUBE POSTS UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, FABRICATING, FURNISHING, AND ERECTING THE POST AND OTHER DETAILS REQUIRED TO PROVIDE A COMPLETE INSTALLATION.
A33	9010-D	WATERING THIS ITEM IS ADDITIONAL WATERING OF SOD ABOVE AND BEYOND THE WATERING SPECIFIED AND INCLUDED IN THE SOD BID ITEM PER SUDAS. ONLY TO BE USED AFTER THE MAINTENANCE PERIOD (30 DAYS). APPLY WATER UNIFORMLY AND CONSISTENTLY ON ALL SODDED AREAS. ACTUAL WATERING QUANTITIES DEPEND UPON WEATHER CONDITIONS DURING THIS PERIOD, AN ADDITIONAL 30 DAYS OR AS REQUESTED BY ENGINEER. CONTRACTOR TO PROVIDE QUANTITY AFTER EACH WATERING.
A34	9020-A	SOD THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, THE PREPARATION OF SOD AND SOD BED, STAKES, FERTILIZING, WATERING, MAINTENANCE, AND CLEAN-UP. MAINTENANCE PERIOD WILL BEGIN FOLLOWING THE INSTALLATION OF SOD FOR AN ENTIRE STAGE AND CONTINUE FOR A PERIOD OF 30 DAYS. AERATING THE SOD BED SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM ALONG WITH ADJUSTMENT OF CURB STOPS TO FINISH GRADE. ALL DAMAGED CURB STOPS SHALL BE REPLACED AT THE COST OF THE CONTRACTOR.
A35	9040-D-1	FILTER SOCK, 9 INCH UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, ANCHORING STAKES, RESTORATION OF THE AREA TO FINISHED GRADE AND OFF-SITE DISPOSAL OF FILTER SOCKS AND ACCUMULATED SEDIMENT.
A36	9040-T-1	INLET PROTECTION DEVICE, MAINTENCE, AND REMOVAL UNIT PRICE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL OF THE DEVICE UPON COMPLETION OF THE PROJECT. THIS ITEM SHALL BE USED ON STORM SEWER CURB INLET STRUCTURES. INSPECTION SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE NPDES GENERAL PERMIT NO. 2 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR ALONG WITH INSTALLATION, MAINTENANCE, AND REMOVAL OF DEVICE.
A37	9060-D	REMOVAL AND REINSTALLATION OF EXISTING FENCE, CHAIN LINK FENCE, RESIDENTIAL
A38	11040-A	TEMPORARY PEDESTRIAN RESIDENTIAL ACCESS RECLAIMED ASPHALT PAVEMENT MAY BE USED. INCLUDES THE INSTALLATION AND MAINTENANCE OF CITY SUPPLIED RUBBER MATTING AT THE LOCATION SHOWN. THE MATTING WILL BE PLACED OVER THE GRANULAR SURFACING. METHOD OF PAYMENT: STAGE 1 - 60% OF UNIT PRICE, STAGE 2 - 40% OR REMAINING UNIT PRICE.

WINDSOR HEIGHTS
BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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DRAWN	PL
CHECKED	JLE
CLIENT PROJ. NO.	0A1.133739

REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
C - QUANTITIES NOTES SWPPP

SHEET
C.08

EXCAVATION QUANTITY	DEPTH, FT	QUANITY, SY	QUANITY, SF	VOLUME, CF	VOLUME, CY	CUT, CY	FILL, CY	FILL FACTOR	ADJ, FILL	NET FILL, CY
EXCAVATION RAW DATA (EG-FG)						466.81	532.03	1.3	691.639	65.22
EXISTING PAVEMENT REMOVAL	0.5	5302.55	47722.96	23861.48	883.76					
EXISTING DRIVEWAY REMOVAL	0.5	1055.88	9502.93	4751.47	175.98					
EXISTING ASPHALT DRIVEWAY REMOVAL										
PROPOSED 7" PAVING	0.58	5705.58	51350.26	29783.15	1103.08					
MODIFIED SUBBASE 6"		6561.42	59052.80	29526.40	1093.57					
PROPOSED SIDEWALK 4"	0.33	787.74	7089.63	2339.58	86.65					
PROPOSED SIDEWALK 6"	0.5	242.11	2178.99	1089.50	40.35					
MODIFIED SUBBASE 4"	-	-	-	-	-					
PROPOSED DRIVEWAY	0.5	793.22	7139	3569.5	132.20					
PROPOSED TOPSOIL	0.5	2857.42	25716.8	12858.4	476.24					
PAVING DIFFERNCE						1312.89				
SIDEWALK DIFFERENCE						127.00				
DRIVEWAY DIFFERENCE						-43.78				
TOPSOIL						-476.24				
						1386.69	532.03	1.3	691.639	695.05

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TABULATIONS

SHEET
C.09

LEGEND

- 4" PCC SIDEWALK
- 6" PCC DRIVEWAY
- 7" PCC PAVEMENT

GUNDAR R & KATHLEEN R LAMBERTS
1002 68TH ST
WINDSOR HEIGHTS, IA 50324

ROCHELLE R LANGFITT
1004 68TH ST
WINDSOR HEIGHTS, IA 50324

JAMES M & MARY L COOPER
1006 68TH ST
WINDSOR HEIGHTS, IA 50324

JONATHAN T WESTBY
1008 68TH ST
WINDSOR HEIGHTS, IA 50324

WJ PROPERTIES LLC
1010 68TH ST
WINDSOR HEIGHTS, IA 50324

JOYCE R & PAUL C WHITE
1012 68TH ST
WINDSOR HEIGHTS, IA 50324

JOHN W & DONNA K LYTLE
1014 68TH ST
WINDSOR HEIGHTS, IA 50324

ZACH D STITZ
1016 68TH ST
WINDSOR HEIGHTS,
IA 50324

KEVIN A CORKREAN
1018 68TH ST
WINDSOR HEIGHTS, IA 50324

TIMOTHY C HENRY
1024 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHELLE J COOK
1003 68TH ST
WINDSOR HEIGHTS, IA 50324

PHILLIP N UHDE
1005 68TH ST
WINDSOR HEIGHTS, IA 50324

LORRAINE D BYRD
1007 68TH ST
WINDSOR HEIGHTS,
IA 50324

CHACE CHAMBERS
PAULINA SECORY
1009 68TH ST
WINDSOR HEIGHTS, IA 50324

TUAN A DAO
1013 68TH ST
WINDSOR HEIGHTS, IA 50324

AMELA & HUSEIN SABIC
1015 68TH ST
WINDSOR HEIGHTS, IA 50324

DAVID Q SMITH
1019 68TH ST
WINDSOR HEIGHTS,
IA 50324

BETTY J, RICHARD J, & TROY A WILSON
1021 68TH ST
WINDSOR HEIGHTS, IA 50324

JEAN H & MICHAEL P MCCONVILLE
1025 68TH ST
WINDSOR HEIGHTS, IA 50324

SEE D.02 MATCHLINE

SCHOOL STREET

INT - 21 · INT - 2 · INT - 3 · INT - 5 · INT - 6 · INT - 22 · MH - 1

12" PIPE · 12" PIPE · 15" PIPE · 37"x23" ARCH PIPE · 15" PIPE · 15" PIPE · 15" PIPE · 15" PIPE

PI: 1+00.00

MH ADJ. (MINOR)

MH ADJ. (MINOR)

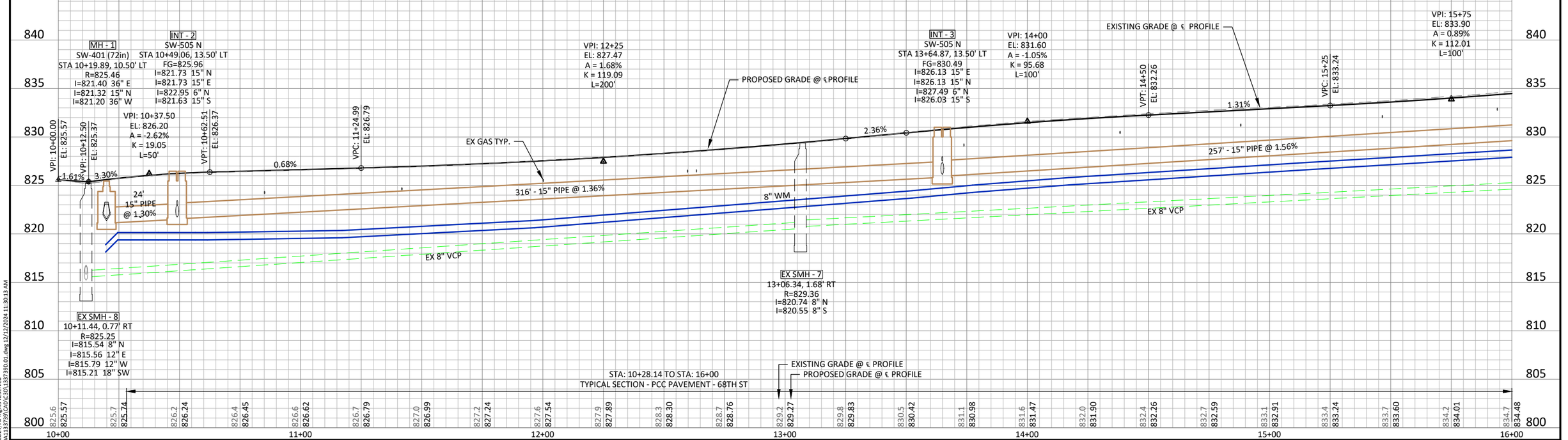
8" WM · 8" WM

68TH STREET

27' B-B
50' ROW

826 · 827 · 828 · 829 · 830 · 831 · 832 · 833 · 834

10+00 · 11+00 · 12+00 · 13+00 · 14+00 · 15+00 · 16+00



STA: 10+28.14 TO STA: 16+00
TYPICAL SECTION - PCC PAVEMENT - 68TH ST

HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS
FROM ROOTS UP IT ALL

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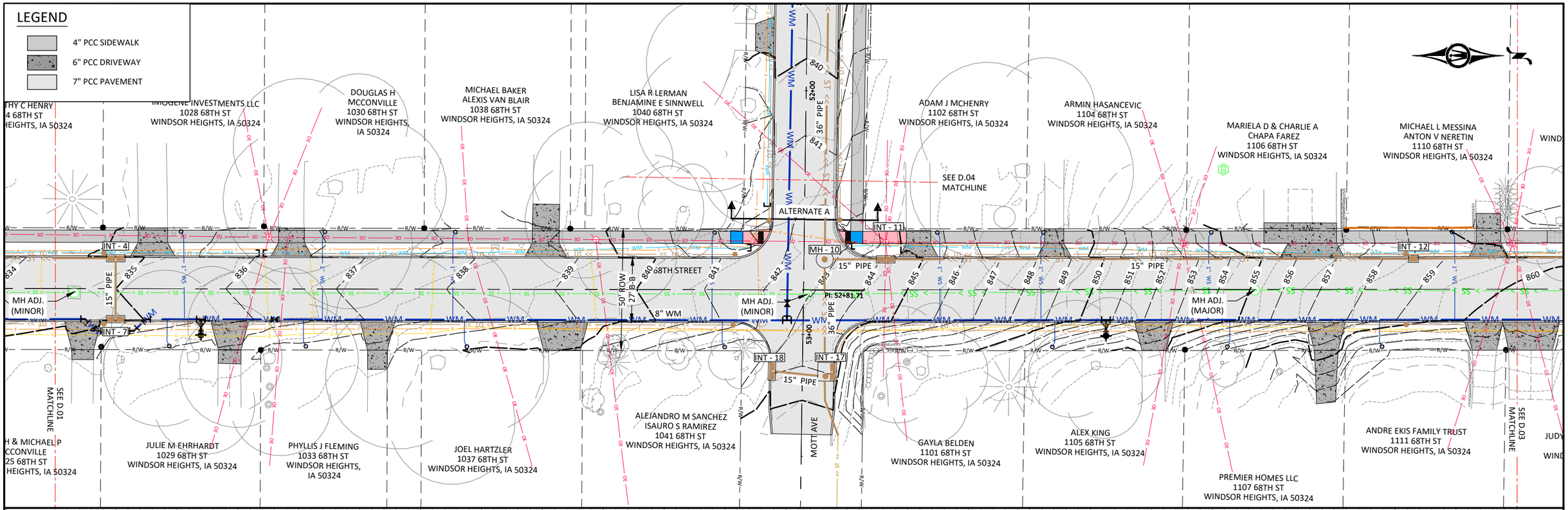
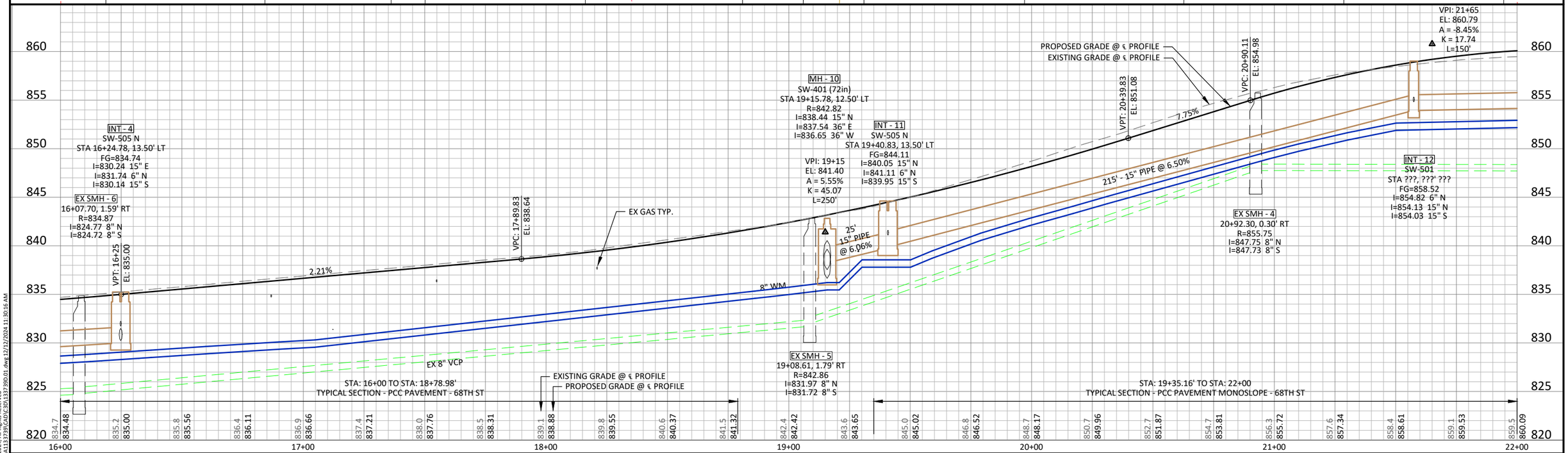
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
PLAN & PROFILE - 68TH STREET

SHEET D.01

LEGEND

- 4" PCC SIDEWALK
- 6" PCC DRIVEWAY
- 7" PCC PAVEMENT





HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

PLAN & PROFILE - 68TH STREET

SHEET D.02

H:\WINDSORH_CI_IA\0A1\133739\CAD\C3D\133739D.01.dwg 12/12/2024 11:30:16 AM

LEGEND

- 4" PCC SIDEWALK
- 6" PCC DRIVEWAY
- 7" PCC PAVEMENT

RYAN A HALA
1112 68TH ST
WINDSOR HEIGHTS, IA 50324

K2 HOLDINGS LLC
1120 68TH ST
WINDSOR HEIGHTS, IA 50324

CLINT MCCONNELL
1124 68TH ST
WINDSOR HEIGHTS, IA 50324

HEATHER L HANSEN
ERIC R BOYSEN
1128 68TH ST
WINDSOR HEIGHTS, IA 50324

STERLING INVESTMENTS LLC
1136 68TH ST
WINDSOR HEIGHTS, IA 50324

LIBERTY FUND
2020 LLC
1140 68TH ST
WINDSOR HEIGHTS,
IA 50324

EMILY L SIMMONS
1160 68TH ST
WINDSOR HEIGHTS, IA 50324

ALLAN H RAUCH
6800 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

RANDY J LAVIA
6808 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

JUDY V & RANDY D CLOUGH
1113 68TH ST
WINDSOR HEIGHTS, IA 50324

JACOB & ANNIKA KINNETZ
1117 68TH ST
WINDSOR HEIGHTS,
IA 50324

BILLY, JANIS, & KYLE WATSON
1125 68TH ST
WINDSOR HEIGHTS, IA 50324

CASEY ROBERTS-MCCOMBS
JASON E ROBERTS
1129 68TH ST

BRAIN FRIEDRICHSEN
1133 68TH ST
WINDSOR HEIGHTS, IA 50324

ZACHARY A BALES-HENRY
EMILY J HAYES
6720 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

SEE D.02 MATCHLINE

INT - 20 | INT - 13 | INT - 15 | INT - 19

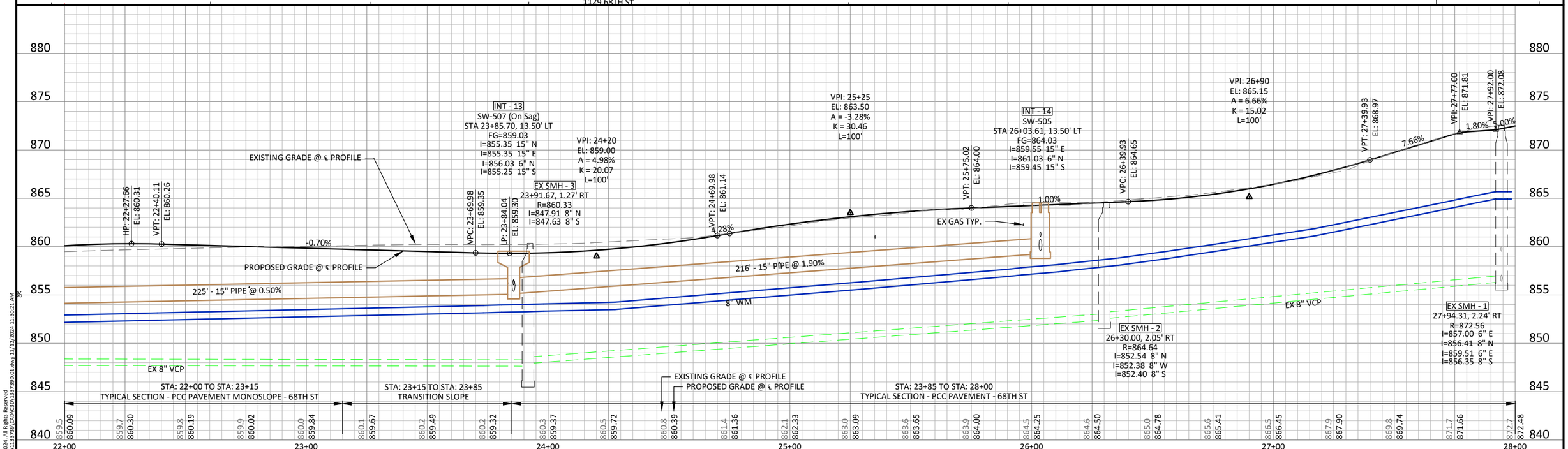
15" PIPE | 15" RCP | 15" PIPE | 15" PIPE

MH ADJ. (MAJOR) | MH ADJ. (MINOR)

27' B-B | 50' ROW

68TH STREET | 8" WM | UNIVERSITY AVE

22+00 | 23+00 | 24+00 | 25+00 | 26+00 | 27+00 | 28+00



HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS
the heart of it all

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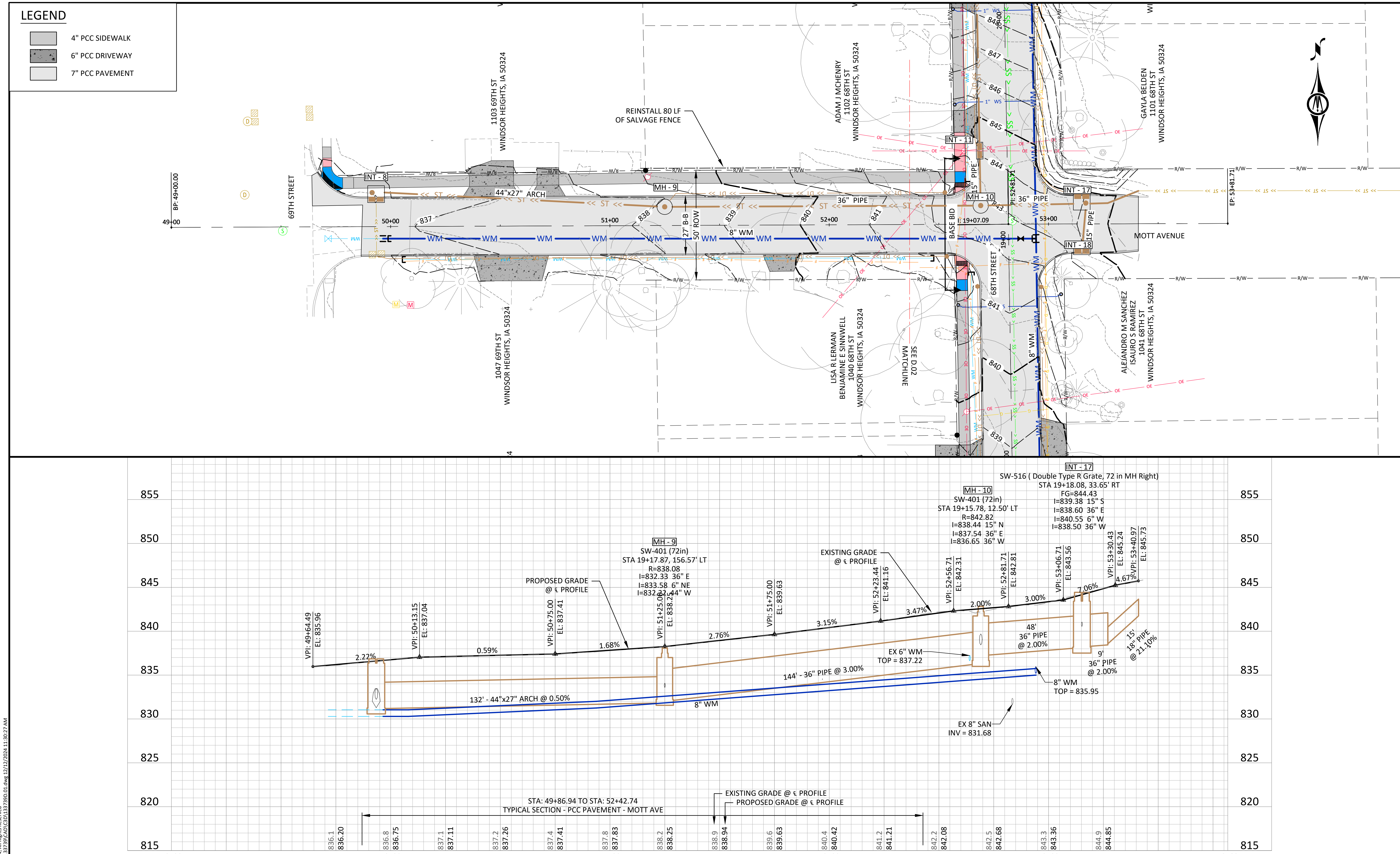
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
PLAN & PROFILE - 68TH STREET

SHEET D.03



HORZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

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CITY OF WINDSOR HEIGHTS, IOWA

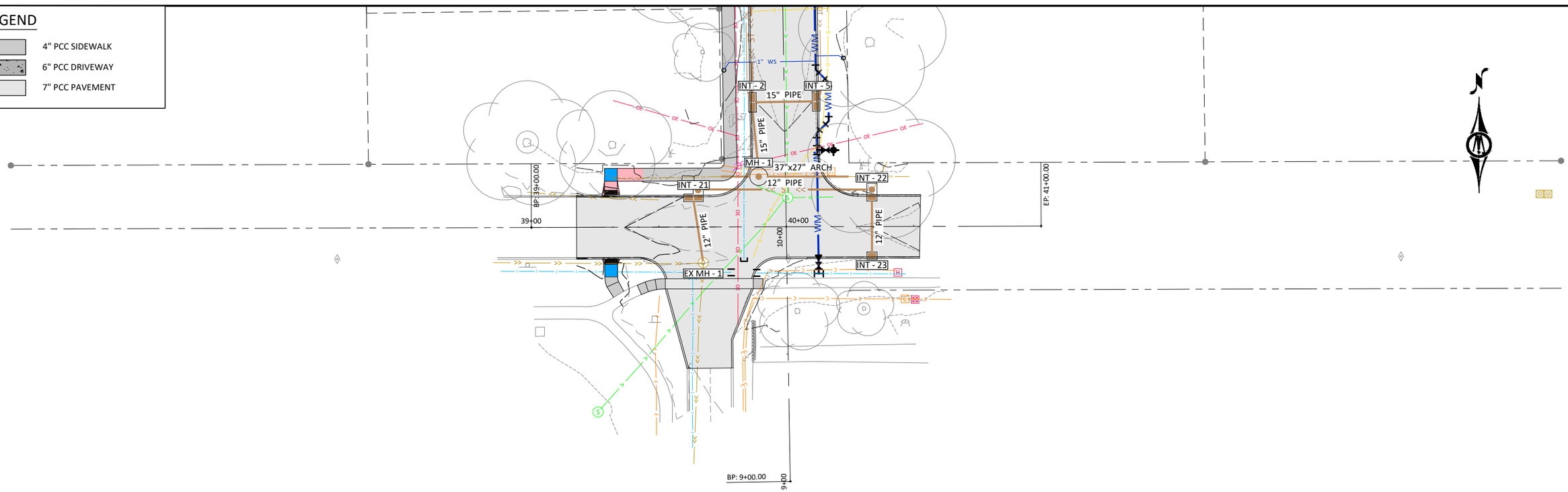
68TH STREET SOUTH RECONSTRUCTION

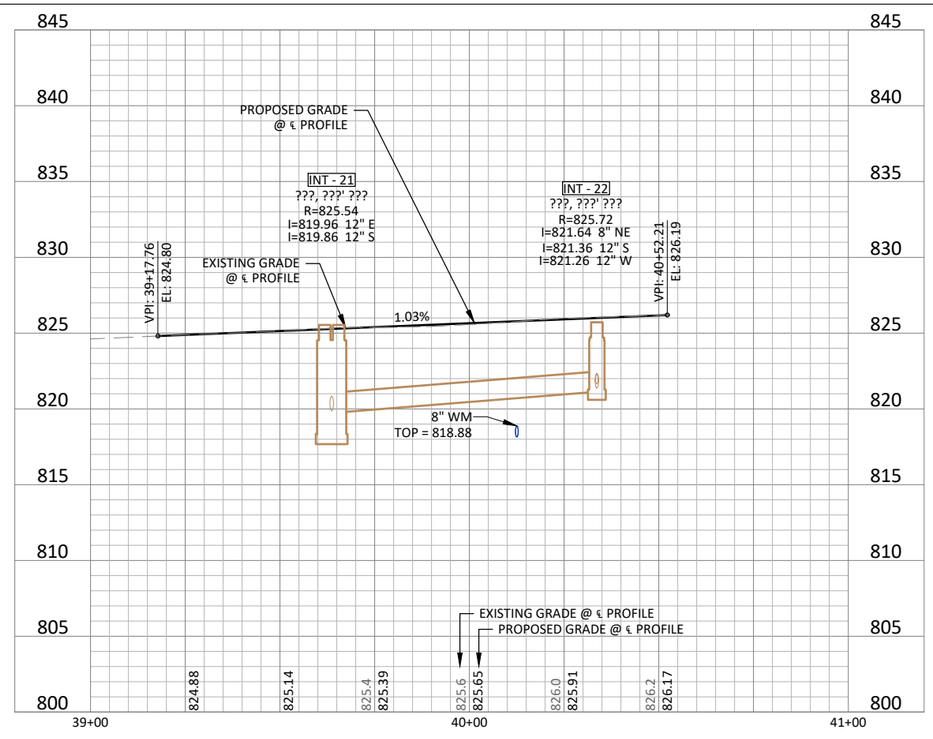
PLAN & PROFILE - MOTT AVENUE ALTERNATE A

SHEET D.04

LEGEND

- 4" PCC SIDEWALK
- 6" PCC DRIVEWAY
- 7" PCC PAVEMENT





HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

PLAN & PROFILE - SCHOOL STREET

SHEET D.05

REMOVAL LEGEND

- PAVEMENT REMOVAL
- DRIVEWAY REMOVAL
- SIDEWALK REMOVAL
- PIPE REMOVAL
- ITEM REMOVAL

NOTE:

1. EXISTING WATER MAIN TO BE CAPPED AND ABANDONED IN PLACE. SPOT REMOVALS MY BE NECESSARY TO INSTALL NEW WATER MAIN OR OTHER UNDERGROUND UTILITIES.
2. EXISTING SIGNS ON UTILITIES POLE TO BE REMOVE AND SALVAGE.

REMOVE 5.0 SY SIDEWALK
REMOVE 132.4 SY DRIVEWAY PAVEMENT
SEE MWM SHEETS FOR REMOVAL
REMOVE 1.9 SY SIDEWALK
REMOVE VALVE BOX STA: 10+25.37 16.18 LT
REMOVE INTAKE
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE INTAKE AND MANHOLE
REMOVE HYDRANT ASSEMBLY (SALVAGE TO DMWW) STA: 10+42.36 20.06 LT
REMOVE INTAKE
REMOVE 15.5 SY DRIVEWAY PAVEMENT
REMOVE 17.7 SY DRIVEWAY PAVEMENT
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE 16.4 SY DRIVEWAY PAVEMENT
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE RETAINING WALL
REMOVE 32.3 SY DRIVEWAY PAVEMENT
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE 18.6 SY DRIVEWAY PAVEMENT
REMOVE 19.2 SY DRIVEWAY PAVEMENT
REMOVE 2407.3 SY PAVEMENT
68TH STREET
REMOVE 18.7 SY DRIVEWAY PAVEMENT
REMOVE 16.3 SY DRIVEWAY PAVEMENT
REMOVE 14.0 SY DRIVEWAY PAVEMENT (ASPHALT)
REMOVE 10.9 SY DRIVEWAY PAVEMENT (ASPHALT)
REMOVE 18.3 SY DRIVEWAY PAVEMENT
REMOVE 18.5 SY DRIVEWAY PAVEMENT
SCHOOL STREET
6750 SCHOOL ST WINDSOR HEIGHTS, IA 50324
GUNDAR R & KATHLEEN R LAMBERTS 1002 68TH ST WINDSOR HEIGHTS, IA 50324
ROCHELLE R LANGEFIT 1004 68TH ST WINDSOR HEIGHTS, IA 50324
JAMES M & MARY L COOPER 1006 68TH ST WINDSOR HEIGHTS, IA 50324
JONATHAN T WESTBY 1008 68TH ST WINDSOR HEIGHTS, IA 50324
WJ PROPERTIES LLC 1010 68TH ST WINDSOR HEIGHTS, IA 50324
JOYCE R & PAUL C WHITE 1012 68TH ST WINDSOR HEIGHTS, IA 50324
JOHN W & DONNA K LYTLE 1014 68TH ST WINDSOR HEIGHTS, IA 50324
MICHELLE J COOK 1003 68TH ST WINDSOR HEIGHTS, IA 50324
PHILLIP N UHDE 1005 68TH ST WINDSOR HEIGHTS, IA 50324
LORRAINE D BYRD 1007 68TH ST WINDSOR HEIGHTS, IA 50324
CHACE CHAMBERS PAULINA SECORY 1009 68TH ST WINDSOR HEIGHTS, IA 50324
TUAN A DAO 1013 68TH ST WINDSOR HEIGHTS, IA 50324
AMELA & HUSEIN SABIC 1015 68TH ST WINDSOR HEIGHTS, IA 50324
SEE F.01 MATCHLINE
TEMPORARY C EASEMENT LI
DAVID 1019 WINDSC IA

REMOVE 10.9 SY DRIVEWAY PAVEMENT (ASPHALT)
REMOVE 18.6 SY DRIVEWAY PAVEMENT
REMOVE 19.2 SY DRIVEWAY PAVEMENT
REMOVE 18.3 SY DRIVEWAY PAVEMENT
REMOVE 18.5 SY DRIVEWAY PAVEMENT
TEMPORARY CONSTRUCTION EASEMENT LIMIT (TYPICAL)
REMOVE 24.9 SY DRIVEWAY PAVEMENT (ASPHALT)
REMOVE 26.3 SY DRIVEWAY PAVEMENT
REMOVE HYDRANT ASSEMBLY (SALVAGE TO DMWW) STA: 16+19.59 18.91 LT
REMOVE 18.9 SY DRIVEWAY PAVEMENT
REMOVE 16.9 SY DRIVEWAY PAVEMENT
REMOVE 22.6 SY DRIVEWAY PAVEMENT
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE 2407.3 SY PAVEMENT
68TH STREET
REMOVE 23.3 SY DRIVEWAY PAVEMENT
REMOVE 16.8 SY DRIVEWAY PAVEMENT (ASPHALT)
REMOVE 25.5 SY DRIVEWAY PAVEMENT
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REMOVE 30.6 SY DRIVEWAY PAVEMENT
REMOVE 22.5 SY DRIVEWAY PAVEMENT
REMOVE STOP SIGN AND POST.
SEE F.04 MATCHLINE
ALTERNATE A
SEE F.02 MATCHLINE
MOTT AVENUE
TUAN A DAO 1013 68TH ST WINDSOR HEIGHTS, IA 50324
AMELA & HUSEIN SABIC 1015 68TH ST WINDSOR HEIGHTS, IA 50324
SEE F.01 MATCH LINE
DAVID Q SMITH 1019 68TH ST WINDSOR HEIGHTS, IA 50324
BETTY J, RICHARD J, & TROY A WILSON 1021 68TH ST WINDSOR HEIGHTS, IA 50324
JEAN H & MICHAEL P MCCONVILLE 1025 68TH ST WINDSOR HEIGHTS, IA 50324
JULIE M EHRHARDT 1029 68TH ST WINDSOR HEIGHTS, IA 50324
PHYLLIS J FLEMING 1033 68TH ST WINDSOR HEIGHTS, IA 50324
JOEL HARTZLER 1037 68TH ST WINDSOR HEIGHTS, IA 50324
ALEJANDRO M SANCHEZ ISAURO S RAMIREZ 1041 68TH ST WINDSOR HEIGHTS, IA 50324
KEVIN A CORKREAN 1018 68TH ST WINDSOR HEIGHTS, IA 50324
ZACH D STITZ 1016 68TH ST WINDSOR HEIGHTS, IA 50324
IMOGENE INVESTMENTS LLC 1028 68TH ST WINDSOR HEIGHTS, IA 50324
DOUGLAS H MCCONVILLE 1030 68TH ST WINDSOR HEIGHTS, IA 50324
MICHAEL BAKER ALEXIS VAN BLAIR 1038 68TH ST WINDSOR HEIGHTS, IA 50324
LISA R LERMAN BENJAMINE E SINNWELL 1040 68TH ST WINDSOR HEIGHTS, IA 50324

HORZ. SCALE 0 20 40 FEET

WINDSOR HEIGHTS

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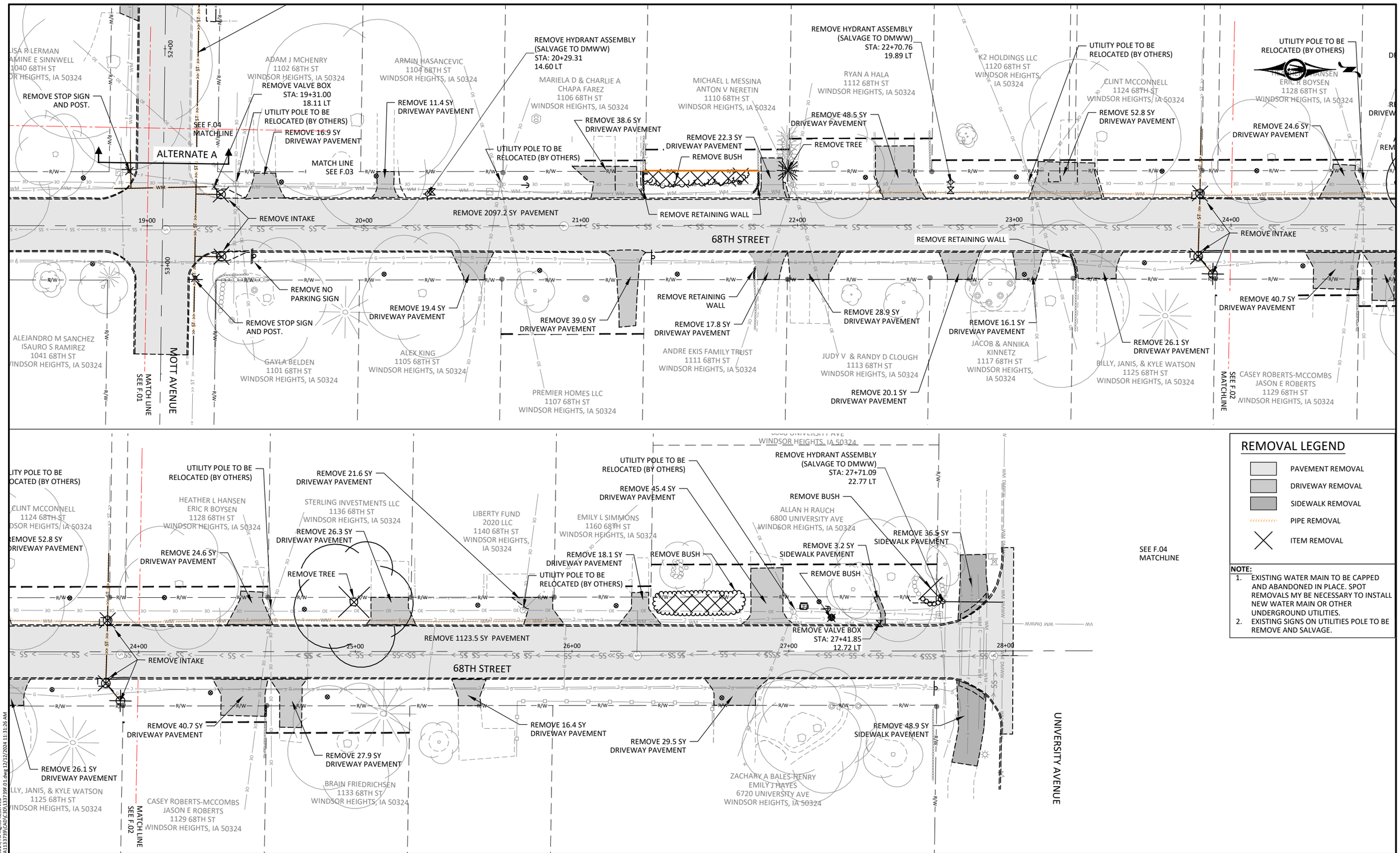
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
REMOVAL SHEETS - 68TH STREET

SHEET F.01



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WINDSOR HEIGHTS

BOLTON & MENK

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
REMOVAL SHEETS - 68TH STREET

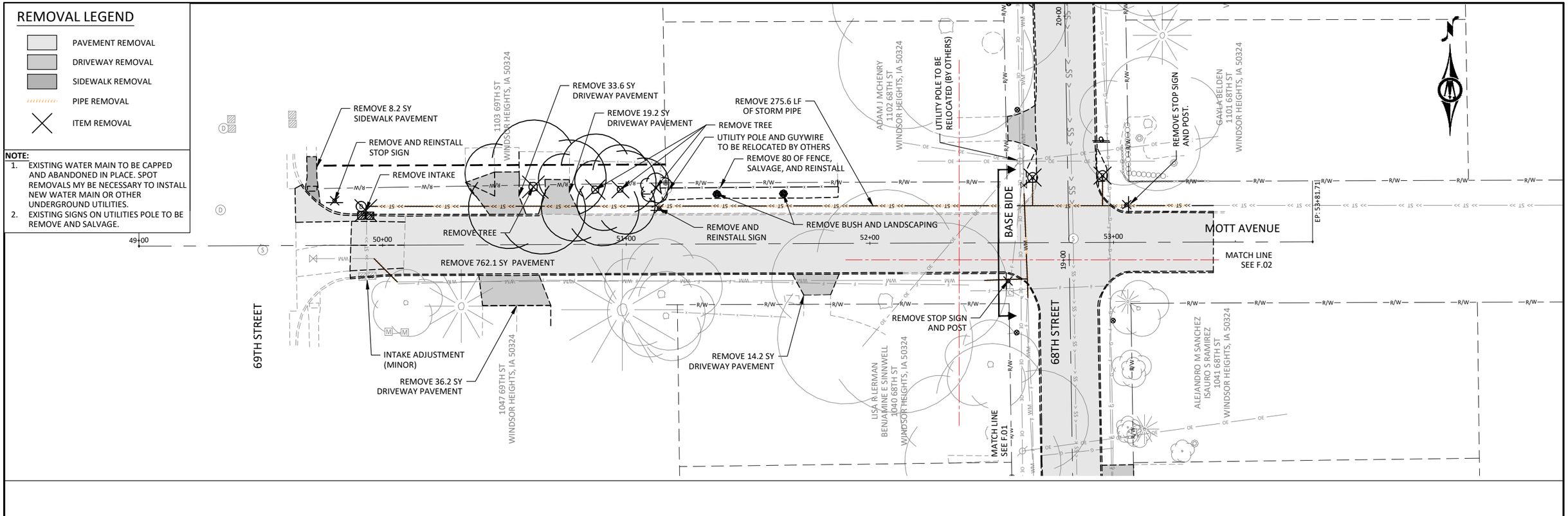
SHEET F.02

REMOVAL LEGEND

- PAVEMENT REMOVAL
- DRIVEWAY REMOVAL
- SIDEWALK REMOVAL
- PIPE REMOVAL
- ITEM REMOVAL

NOTE:

1. EXISTING WATER MAIN TO BE CAPPED AND ABANDONED IN PLACE. SPOT REMOVALS MY BE NECESSARY TO INSTALL NEW WATER MAIN OR OTHER UNDERGROUND UTILITIES.
2. EXISTING SIGNS ON UTILITIES POLE TO BE REMOVE AND SALVAGE.



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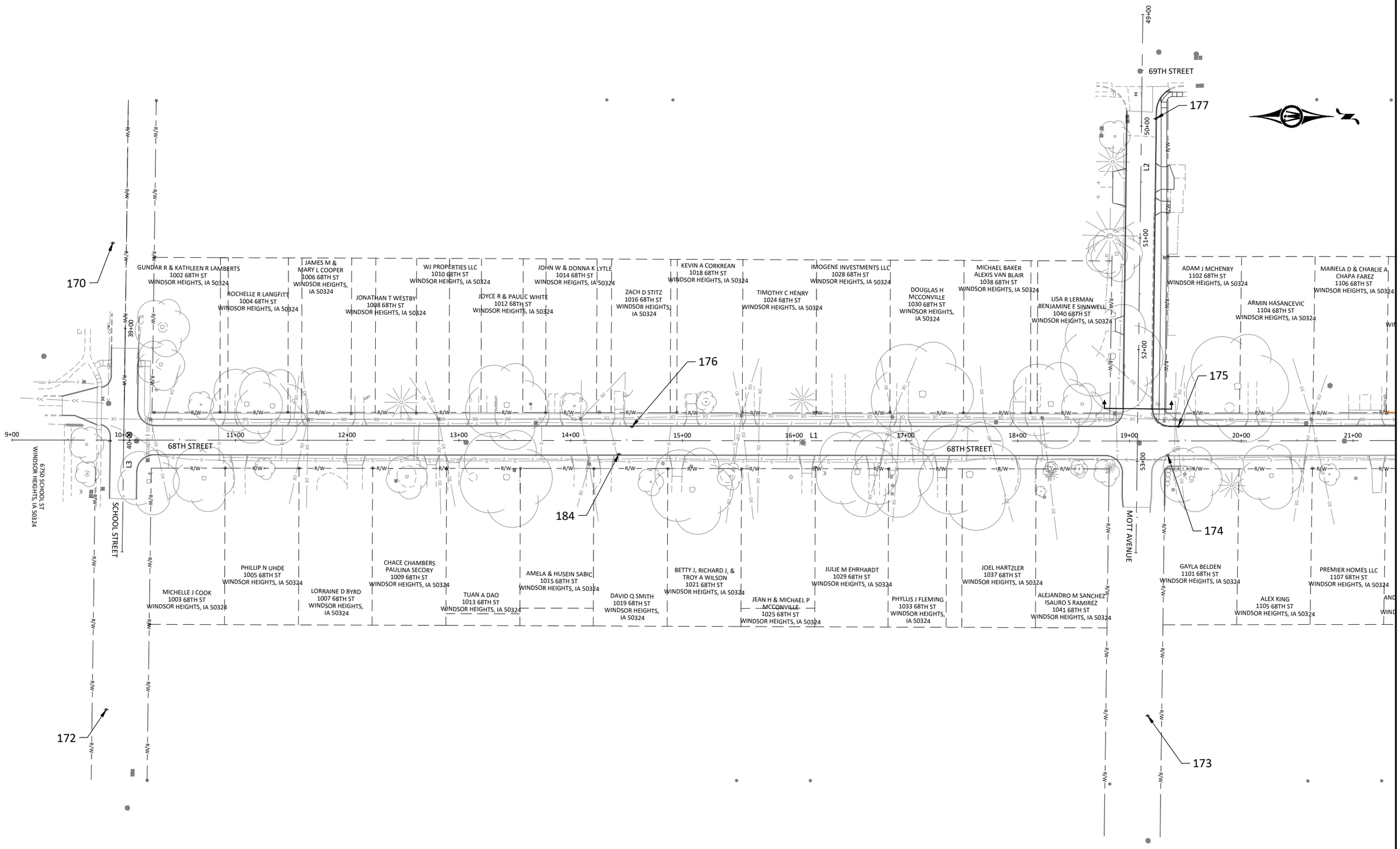
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
REMOVAL SHEET - MOTT AVENUE

SHEET F.03



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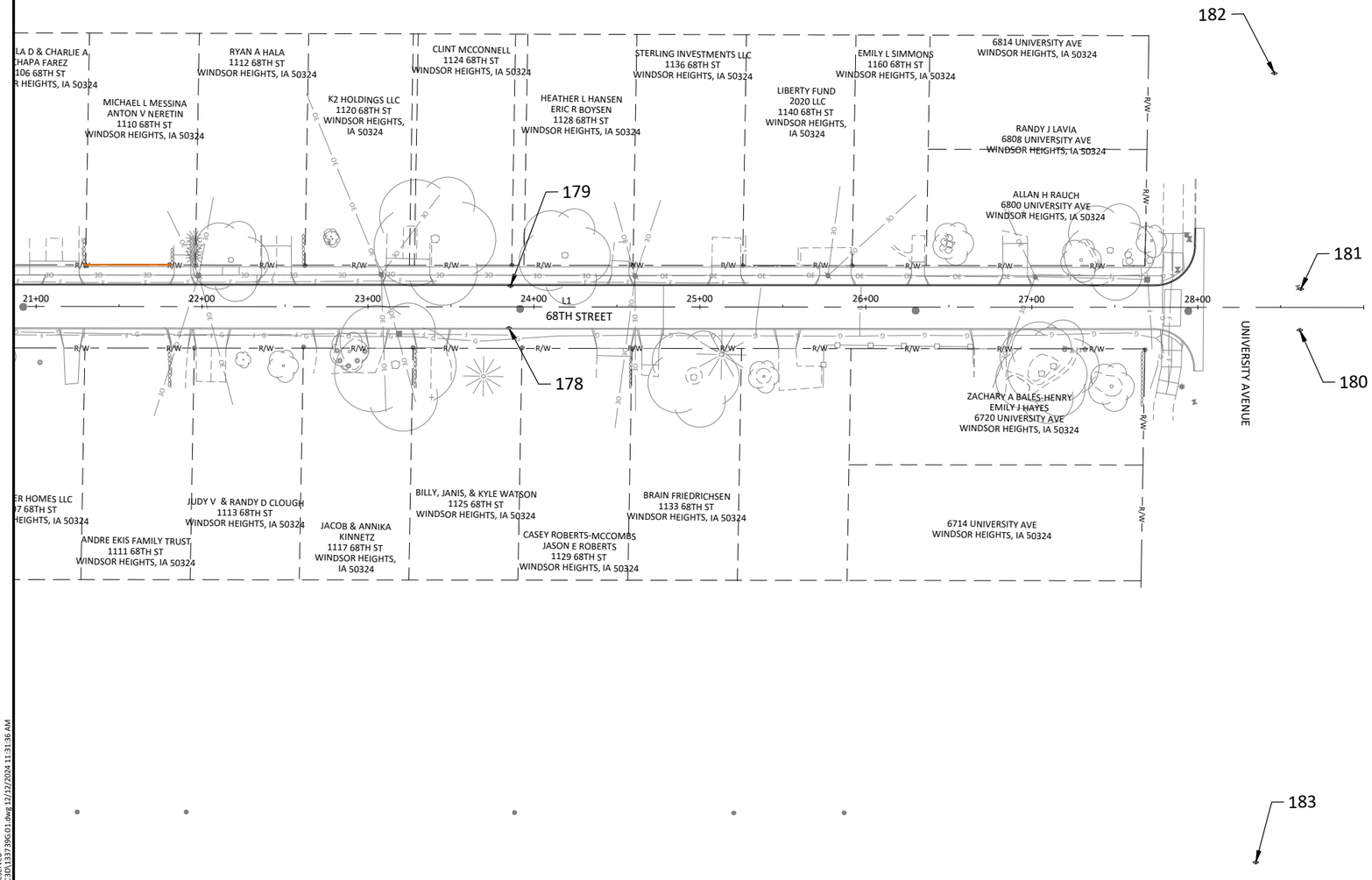
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ALLIGNMENT AND CONTROL DATA

SHEET
G.01



68TH ST - ALIGNMENT DATA

LINE #	LENGTH	BEARING	START POINT	END POINT	STATION START	STATION END
L1	992.8945	N1° 03' 19.89"W	N: 582252.0487, E: 1582706.9343	N: 583244.7747, E: 1582688.6438	9+00	28+99.99

MOTT AVE - ALIGNMENT DATA

LINE #	LENGTH	BEARING	START POINT	END POINT	STATION START	STATION END
L2	381.7114	N89° 46' 37.03"E	N: 582250.5627, E: 1582325.2258	N: 582252.0487, E: 1582706.9343	49+00	53+81.71

MOTT AVE - ALIGNMENT DATA

LINE #	LENGTH	BEARING	START POINT	END POINT	STATION START	STATION END
L3	200.0000	N89° 50' 32.87"E	N: 581344.7921, E: 1582621.1895	N: 581345.3420, E: 1582821.1887	39+00	41+00

POINT LAT/LONG DATA

POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTH	EAST
170	VFCP /CUT X BOC	823.930	581332.36	1582545.00
171	VFCP /CUT X BOC	825.774	581332.60	1582722.00
172	VFCP /CUT X BOC	828.067	581333.46	1582962.43
173	VFCP /CUT X BOC	852.561	582265.30	1582952.50
174	VFCP /CUT X INTAKE	844.500	582279.40	1582719.25
175	VFCP /CUT X INTAKE	844.409	582288.43	1582693.28
176	VFCP /CUT X BOC	832.517	581799.54	1582701.57
177	VFCP /CUT X BOC BETWEEN INTAKES	836.900	582263.53	1582418.34
178	VFCP /CUT X INTAKE	860.652	582730.04	1582710.93
179	VFCP /CUT X INTAKE	860.075	582730.55	1582685.54
180	VFCP /CUT X BOC	873.757	583206.56	1582703.01
181	VFCP /CUT X BOC	873.327	583206.71	1582678.24
182	VFCP /CUT X EOWK	870.279	583188.26	1582548.65
183	VFCP /CUT X LP BASE	880.324	583186.20	1583024.02
184	VFCP /CUT X BOC	832.161	581788.32	1582726.42

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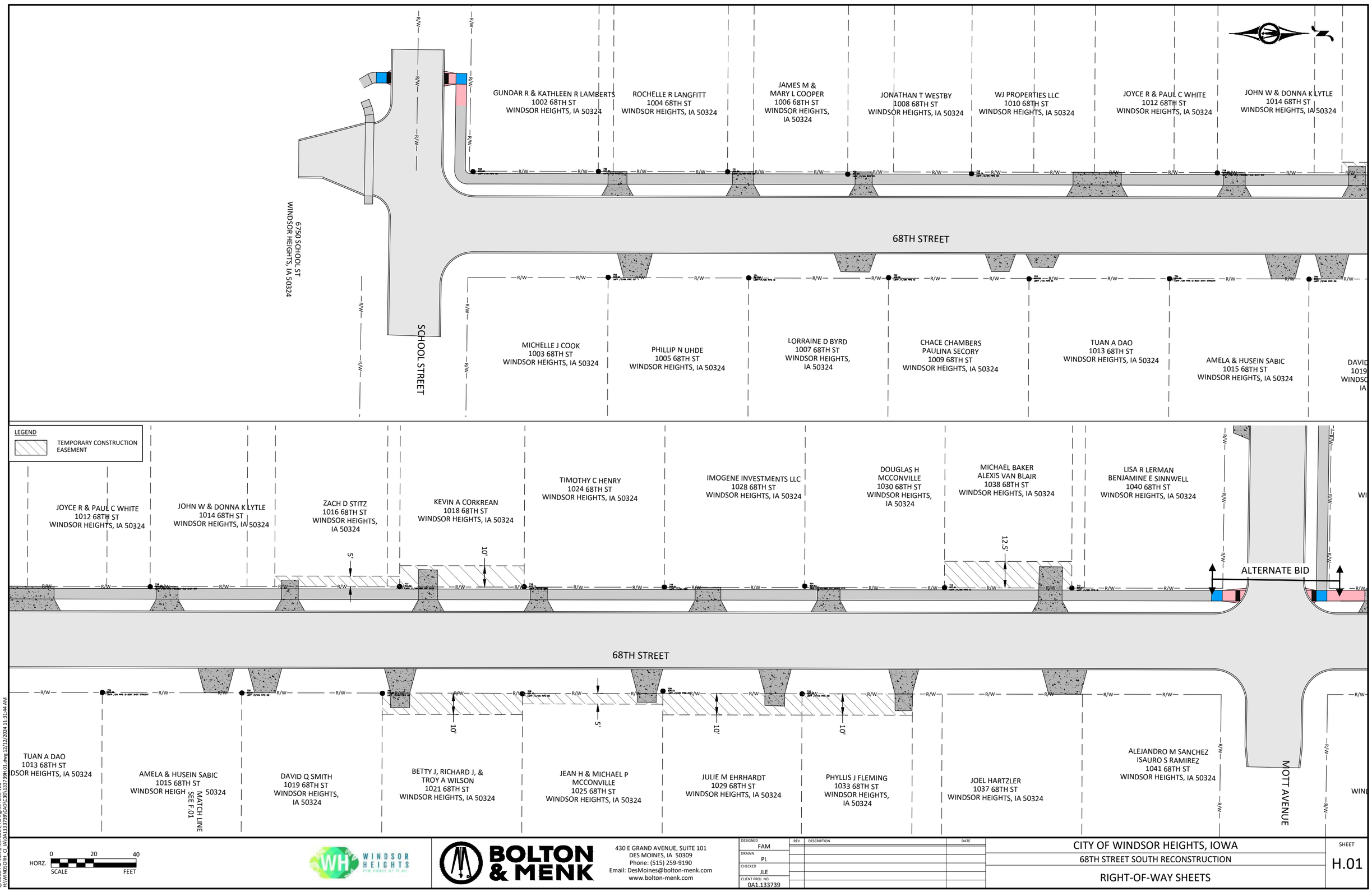
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ALLIGNMENT AND CONTROL DATA

SHEET G.02



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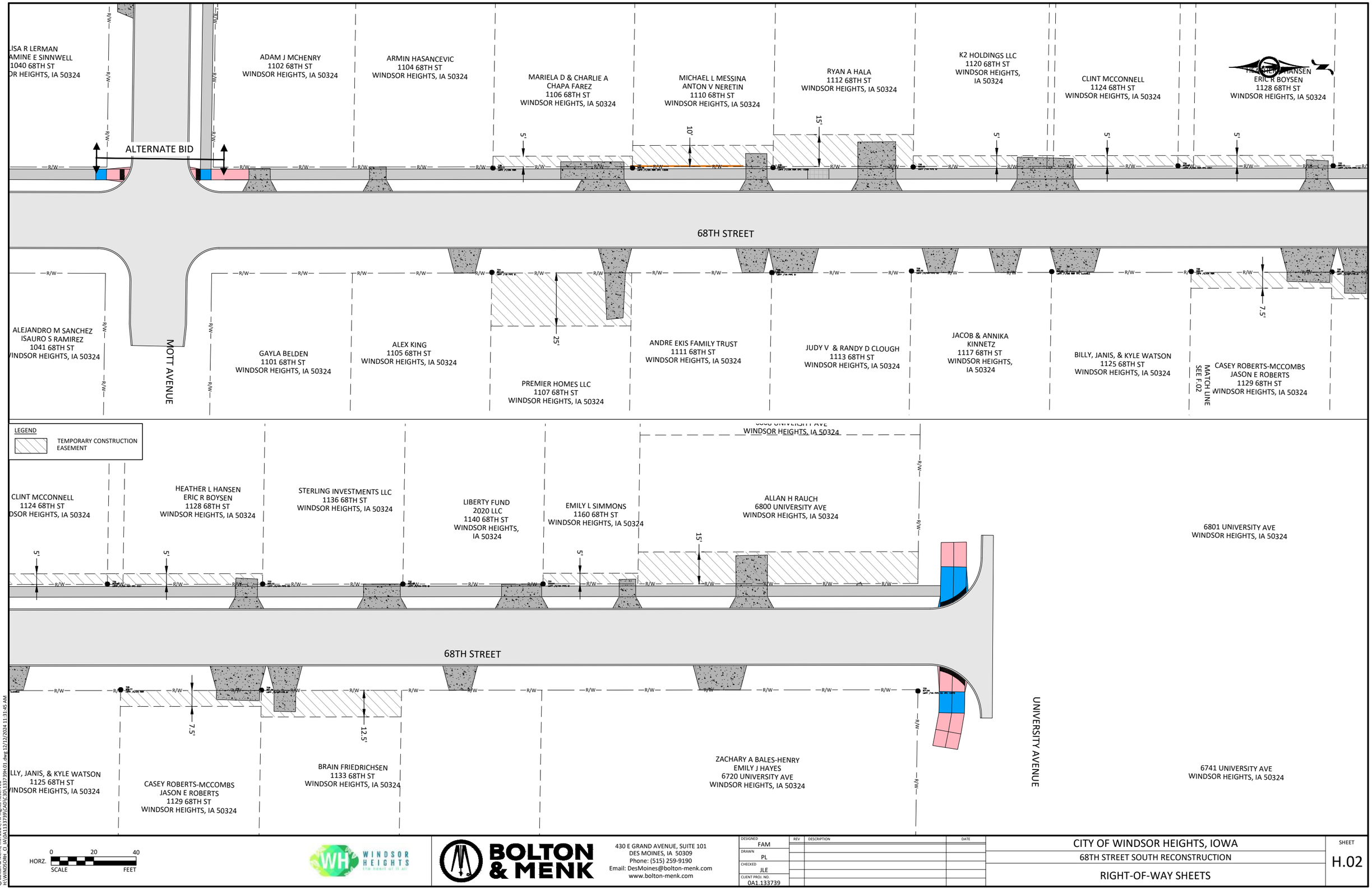
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
RIGHT-OF-WAY SHEETS

SHEET H.01



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RIGHT-OF-WAY SHEETS

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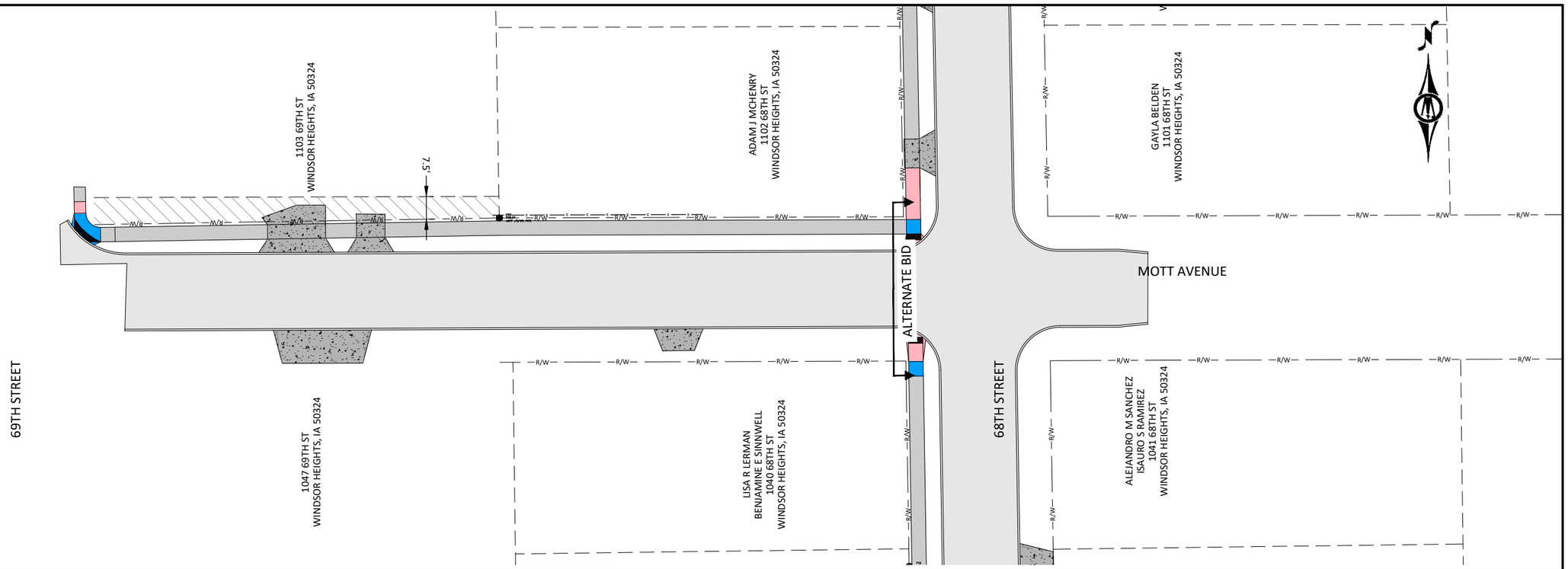
H.02



LEGEND

TEMPORARY CONSTRUCTION EASEMENT

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

RIGHT-OF-WAY SHEETS

SHEET H.03

STAGING NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING PROPERTY OWNERS ALONG 68TH STREET A MINIMUM OF 7 CALENDAR DAYS PRIOR TO CHANGES IN ACCESS.
2. HAUL ROUTES SHALL BE APPROVED BY THE CITY PRIOR TO INITIATING HAULING.
3. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL ON THE PROJECT SITE. WATER SHALL BE USED AT THE REQUEST OF THE ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
4. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF HAUL ROUTES AND TEMPORARY ACCESS SIDEWALKS OR DRIVES.

STAGING GENERAL NOTES

1. CONTRACTOR SHALL BEGIN WORK IN STAGE 1. SEE STAGING GENERAL NOTE 2 FOR PROGRESSION OF WORK AFTER STAGE 1.
2. IT IS RECOGNIZED THAT AS THE VARIOUS ACTIVITIES RELATED TO CONSTRUCTION PROGRESS, CERTAIN SITUATIONS MAY ARISE WHICH WILL PRECLUDE ADHERING TO THE ORIGINAL CONSTRUCTION SEQUENCE OR WHICH WOULD READILY LEND THEMSELVES TO MORE EFFICIENT STAGING OPERATIONS. SHOULD THE CONTRACTOR DESIRE TO DEVIATE FROM THE ORIGINAL PLAN, A WRITTEN ALTERNATIVE PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PROPOSED CHANGES.
3. WORK EXECUTED BETWEEN OCTOBER 1 AND APRIL 1, THAT IMPACTS TRAFFIC, SHALL BE APPROVED BY THE CITY. ROADWAYS SHALL BE REPAVED AND REOPENED BEFORE THE FIRST SNOWFALL.
4. IT IS THE PROJECT INTENT TO COMPLETE THE DRIVEWAYS, SIDEWALK AND SURFACE RESTORATION IMMEDIATELY FOLLOWING THE COMPLETION OF THE ROADWAY PAVEMENT.
5. ALL SEGMENTS OF ROADWAY SHALL BE SWEPT AND CLEANED FROM ALL DEBRIS. FLUSH THE SURFACE WITH WATER IF DUST IS AN ISSUE PRIOR TO OPENING.
6. REFER TO IOWA DOT TRAFFIC CONTROL STANDARD DRAWINGS TO HANDLE CERTAIN SITUATIONS DURING CONSTRUCTION. COORDINATE WITH THE ENGINEER.

STAGE 1 - TRAFFIC

1. SET UP TRAFFIC CONTROL FOR STAGE 1 AS SHOWN IN THE J SHEETS OR AS DEEMED NECESSARY.
2. CONTRACTOR TO DETERMINE NEEDED LANE CLOSURES ON UNIVERSITY AVENUE. PROVIDE LAYOUTS AND NOTICE TO CITY 48 HOURS PRIOR TO LANE CLOSURES.
3. SCHOOL STREET AND PUBLIC WORKS DRIVEWAY CLOSURE TO BE MINIMIZED. WHEN NO WORK IS ANTICIPATED WITHIN 2 DAYS, BOTH SHALL BE OPENED UP TO TRAFFICE.

STAGE 1 - CONSTRUCTION

1. CLOSE ROADWAY AFTER PROVIDING RESIDENT NOTICES.
2. TOPSOIL SALVAGE AND STOCKPILE OR HAUL OFF SITE.
3. INSTALL TEMPORARY SIDEWALK ON BOTH SIDES OF THE STREET FOR THE ENTIRE STAGE.
4. REMOVE EXISTING 68TH STREET ROADWAY.
5. PAVEMENT REMOVAL ON SCHOOL STREET AND PUBLIC WORKS DRIVEWAY TO OCCUR JUST PRIOR TO STREET GRADING OR AS REQUIRED TO INSTALL WATER MAIN AND STORM SEWER. SCHOOL STREET AND PUBLIC WORKS DRIVEWAY TO BE ROCKED TO ALLOW USE DURING CONSTRUCTION
6. GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SANITARY SEWER SERVICES
7. STAGE 2 MAY BEGIN ONCE ALL UNDERGROUND PIPE WORK IS COMPLETE AND AS APPROVED BY THE ENGINEER.
8. INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, BACKFILL, INSTALL SIDEWALK, AND SURFACE RESTORATION.
9. SCHOOL STREET AND PUBLIC WORKS DRIVEWAY TO BE GRADED AND POURED BACK IMMEDIATELY AFTER ALL UNDERGROUND WORK IS COMPLETED.
10. COORDINATE PUBLIC WORKS DRIVEWAY CLOSURE 7 CALENDAR DAYS PRIOR TO PAVEMENT REMOVAL.

STAGE 2 - TRAFFIC

1. SET UP TRAFFIC CONTROL FOR STAGE 2 AS SHOWN IN THE J SHEETS OR AS DEEMED NECESSARY.
2. CONTRACTOR TO DETERMINE NEEDED LANE CLOSURES ON UNIVERSITY AVENUE. PROVIDE LAYOUTS AND NOTICE TO CITY 72 HOURS PRIOR TO LANE CLOSURES.

STAGE 2 - CONSTRUCTION

1. CLOSE ROADWAY AFTER PROVIDING RESIDENT NOTICES.
2. TOPSOIL SALVAGE AND STOCKPILE OR HAUL OFF SITE.
3. INSTALL TEMPORARY SIDEWALK ON BOTH SIDES OF THE STREET FOR THE ENTIRE STAGE.
6. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SANITARY SEWER SERVICES, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, BACKFILL, INSTALL SIDEWALK, AND SURFACE RESTORATION.
7. PAVEMENT REMOVALS ON UNIVERSITY AVENUE TO OCCUR JUST BEFORE WATER MAIN INSTALLATION.
8. UNIVERSITY AVENUE TO BE GRADED AND POURED BACK IMMEDIATELY AFTER ALL UNDERGROUND WORK IS COMPLETED TO MINIMIZE LANE CLOSURES.

STAGE 3 - TRAFFIC

1. SET UP TRAFFIC CONTROL FOR STAGE 2 AS SHOWN IN THE J SHEETS.

STAGE 3 - CONSTRUCTION

1. CLOSE ROADWAY AFTER PROVIDING RESIDENT NOTICES.
2. TOPSOIL SALVAGE AND STOCKPILE OR HAUL OFF SITE.
3. INSTALL TEMPORARY SIDEWALK ON BOTH SIDES OF THE STREET FOR THE ENTIRE STAGE.
4. INSTALL TEMPORARY DRIVEWAY OFF 69TH STREET.
5. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, BACKFILL, INSTALL SIDEWALK, AND SURFACE RESTORATION.

TRAFFIC CONTROL PLAN

1. CONTRACTOR TO VERIFY TRAFFIC CONTROL DEVICES AT A MINIMUM OF ONCE A DAY OR IMMEDIATELY AFTER A WEATHER EVENT. CORRECT AS NECESSARY.
2. THE CONTRACTOR SHALL PROVIDE 48 HOURS STREET/LANE CLOSURE NOTICE TO THE CITY.
3. TRAFFIC CONTROL SIGNS INSTALLED FOR MORE THAN THREE DAYS SHALL BE POST MOUNTED.

THE CONTRACTOR SHALL EMPLOY SOUND PRACTICES OF SAFETY AND TRAFFIC CONTROL. THESE METHODS AND PRACTICES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH OTHER PROJECTS.
2. TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH SPECIFIC LAYOUTS ON THESE PLANS. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL BE PER CURRENT PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.
3. AT FULL CLOSURE LOCATIONS, CONTRACTOR SHALL PROVIDE ENOUGH TYPE III BARRICADES TO COMPLETELY CROSS THE ROADWAY.
4. SIGN WASHING SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE PROJECT ENGINEER.

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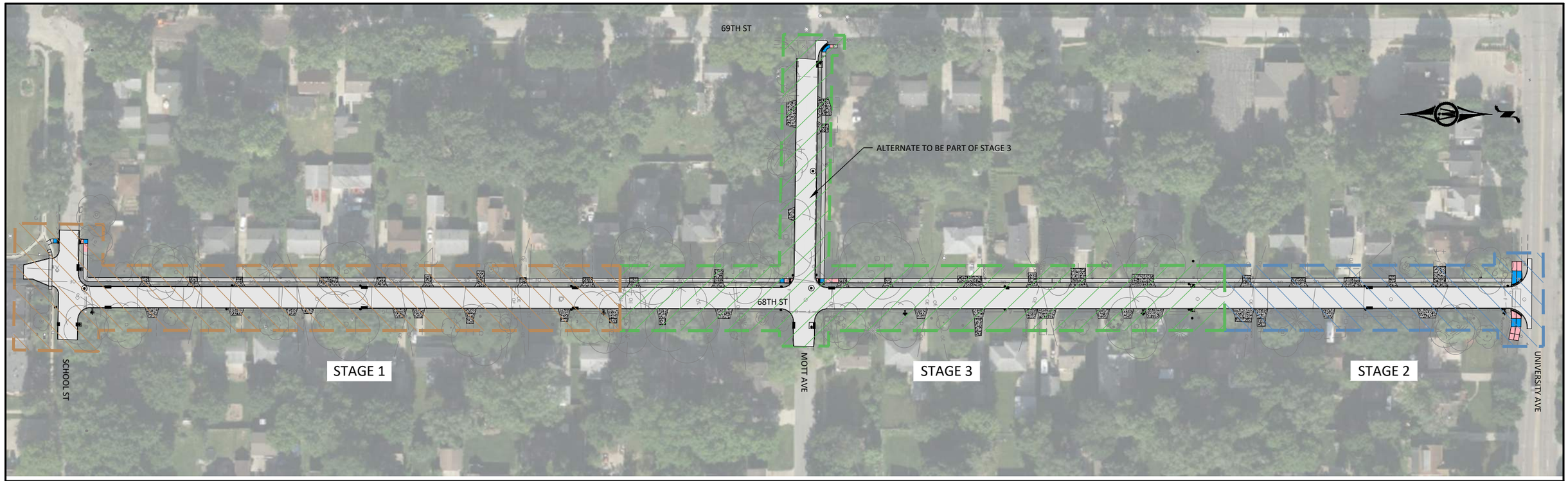
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STAGING AND TRAFFIC CONTROL NOTES

SHEET
J.01



STAGING NOTES:

1. THE CONTRACTOR IS TO CONSTRUCT THE PROJECT IN 3 STAGES. THE CONTRACTOR SHALL PROVIDE A STAGING PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. ANY ADJUSTMENT TO THE STAGING/TRAFFIC CONTROL SHALL BE COORDINATED WITH THE CITY OF WINDSOR HEIGHTS AND ENGINEER ON RECORD A MINIMUM OF TWO WEEKS IN ADVANCE.
3. THE CONTRACTOR SHALL REQUEST, IN WRITING, PERMISSION TO START EACH STAGE OF THE PROJECT AND SUBMIT AN UPDATED SCHEDULE FOR EACH STAGE UNDER CONSTRUCTION
4. THE ROAD SHALL BE SCRAPPED AND BROOMED PRIOR TO OPENING THE STREET TO TRAFFIC.
5. SITE RESTORATION SHALL BE COMPLETED PRIOR TO NEXT STAGE STARTING OR APPROVED BY ENGINEER.
6. REFER TO WATER MAIN PLANS FOR WATER MAIN PHASING.
7. WATER MAIN DESIGN ASSUMES WATER MAIN WILL BE INSTALLED STARTING AT SCHOOL STREET AND ENDING AT UNIVERSITY AVENUE.
8. PROPOSED CHANGES TO STAGING MUST BE REVIEW BY DMWW.

MAINTAINING MOBILITY FOR HANDICAPPED RESIDENTS:

1. DUE TO THE MOBILITY ISSUES OF SEVERAL RESIDENTS ALONG THE CORRIDOR, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN RUBBER MATTING PROVIDED BY THE CITY AND INSTALLED AS DIRECTED BY ENGINEER.
2. CONTRACTOR TO MAINTAIN TEMPORARY SIDEWALK AND DRIVEWAY GRADING.

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WINDSOR HEIGHTS

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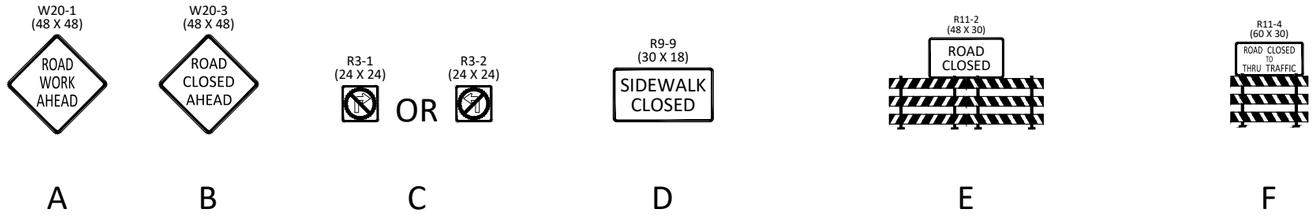
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STAGING AND TRAFFIC CONTROL - 68TH STREET

SHEET
J.02



A B C D E F

TRAFFIC CONTROL NOTES:

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2. SUBMIT DETAILED TRAFFIC CONTROL PLANS FOR ALL WORK LOCATIONS FOR APPROVAL PRIOR TO PRECONSTRUCTION MEETING. ALL TRAFFIC CONTROL PLANS, DEVICES, AND PROCEDURES SHALL CONFORM TO THE CURRENT VERSION OF THE MUTCD.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
4. PORTABLE MOUNTINGS FOR WARNING SIGNS MAY BE USED FOR TEMPORARY INSTALLATIONS OF 3 DAYS OR LESS. ALL OTHER TRAFFIC CONTROL SHALL BE POST MOUNTED.
5. THE PROPOSED SIGNAGE MAY BE MODIFIED TO MEET FIELD CONDITIONS, PREVENT OBSTRUCTIONS AND TO ACCOMMODATE CONSTRUCTION SCHEDULING UPON APPROVAL OF THE PROJECT ENGINEER.
6. ORANGE SAFETY FENCE SHALL BE PLACED ENTIRELY ACROSS THE TRAVELED PORTION OF THE ROADWAY AT ALL LOCATIONS WHERE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS ARE USED.
7. SIGNAGE MAINTENANCE SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE ENGINEER.
8. ALL CONSTRUCTION SIGNS SHALL BE DIAMOND GRADE FLUORESCENT ORANGE OR WHITE V.I.P. SHEETING OR EQUIVALENT. (IOWA DOT TYPE VII SHEETING).
9. THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL CITY SIGNS THAT WILL BE IN THE WAY.
10. AT THE TIME OF INITIAL SETUP OR AT THE TIME OF MAJOR STAGE CHANGES, 100 PERCENT OF EACH TYPE OF DEVICE (SIGNS, CONES, TUBULAR MARKERS, DRUMS, BARRICADES, VERTICAL PANELS, CHANGEABLE MESSAGE SIGNS, AND PAVEMENT MARKINGS) SHALL BE CLASSIFIED AS ACCEPTABLE BY THE REQUIREMENT OF THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), "QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES 1992." THROUGHOUT THE DURATION OF THE PROJECT, UNACCEPTABLE DEVICES OR SITUATIONS THAT ARE FOUND ON THE JOBSITE AS DETERMINED BY BEFORE MENTIONED PUBLICATION SHALL BE REPLACED OR THE SITUATION CORRECTED WITHIN 12 HOURS OF INITIAL NOTIFICATIONS BY THE ENGINEER.
11. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NONWORKING HOURS SHALL BE AS APPROVED BY THE ENGINEER, AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH THE PROPERTY OWNER.

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TRAFFIC CONTROL - 68TH STREET

SHEET
J.03

W20-1
(48 X 48)

A

W20-3
(48 X 48)

B

R3-1
(24 X 24)

OR

R3-2
(24 X 24)

C

R9-9
(30 X 18)

D

R11-2
(48 X 30)

E

R11-4
(60 X 30)

F

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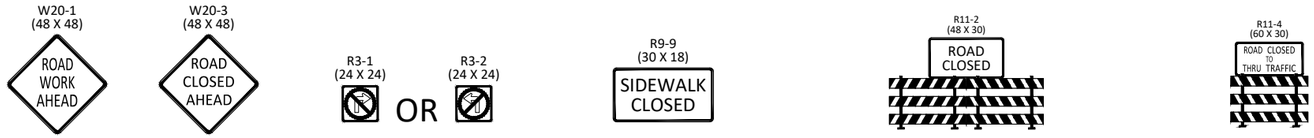
CLIENT PROJ. NO.			
0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TRAFFIC CONTROL - 68TH STREET

SHEET
J.04



A B C D E F

TRAFFIC CONTROL NOTES:

1. SPECIFIC TRAFFIC CONTROL LAYOUTS ARE SHOWN ON THESE PLANS. THESE ARE GENERAL TRAFFIC CONTROL LAYOUTS FOR INFORMATION ONLY.
2. SUBMIT DETAILED TRAFFIC CONTROL PLANS FOR ALL WORK LOCATIONS FOR APPROVAL PRIOR TO PRECONSTRUCTION MEETING. ALL TRAFFIC CONTROL PLANS, DEVICES, AND PROCEDURES SHALL CONFORM TO THE CURRENT VERSION OF THE MUTCD.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
4. PORTABLE MOUNTINGS FOR WARNING SIGNS MAY BE USED FOR TEMPORARY INSTALLATIONS OF 3 DAYS OR LESS. ALL OTHER TRAFFIC CONTROL SHALL BE POST MOUNTED.
5. THE PROPOSED SIGNAGE MAY BE MODIFIED TO MEET FIELD CONDITIONS, PREVENT OBSTRUCTIONS AND TO ACCOMMODATE CONSTRUCTION SCHEDULING UPON APPROVAL OF THE PROJECT ENGINEER.
6. ORANGE SAFETY FENCE SHALL BE PLACED ENTIRELY ACROSS THE TRAVELED PORTION OF THE ROADWAY AT ALL LOCATIONS WHERE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS ARE USED.
7. SIGNAGE MAINTENANCE SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE ENGINEER.
8. ALL CONSTRUCTION SIGNS SHALL BE DIAMOND GRADE FLUORESCENT ORANGE OR WHITE V.I.P. SHEETING OR EQUIVALENT. (IOWA DOT TYPE VII SHEETING).
9. THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL CITY SIGNS THAT WILL BE IN THE WAY.
10. AT THE TIME OF INITIAL SETUP OR AT THE TIME OF MAJOR STAGE CHANGES, 100 PERCENT OF EACH TYPE OF DEVICE (SIGNS, CONES, TUBULAR MARKERS, DRUMS, BARRICADES, VERTICAL PANELS, CHANGEABLE MESSAGE SIGNS, AND PAVEMENT MARKINGS) SHALL BE CLASSIFIED AS ACCEPTABLE BY THE REQUIREMENT OF THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), "QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES 1992." THROUGHOUT THE DURATION OF THE PROJECT, UNACCEPTABLE DEVICES OR SITUATIONS THAT ARE FOUND ON THE JOBSITE AS DETERMINED BY BEFORE MENTIONED PUBLICATION SHALL BE REPLACED OR THE SITUATION CORRECTED WITHIN 12 HOURS OF INITIAL NOTIFICATIONS BY THE ENGINEER.
11. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NONWORKING HOURS SHALL BE AS APPROVED BY THE ENGINEER, AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH THE PROPERTY OWNER.

HORZ. SCALE 0 100 200 FEET

WINDSOR HEIGHTS
FROM HOMES AT IT'S BEST

BOLTON & MENK

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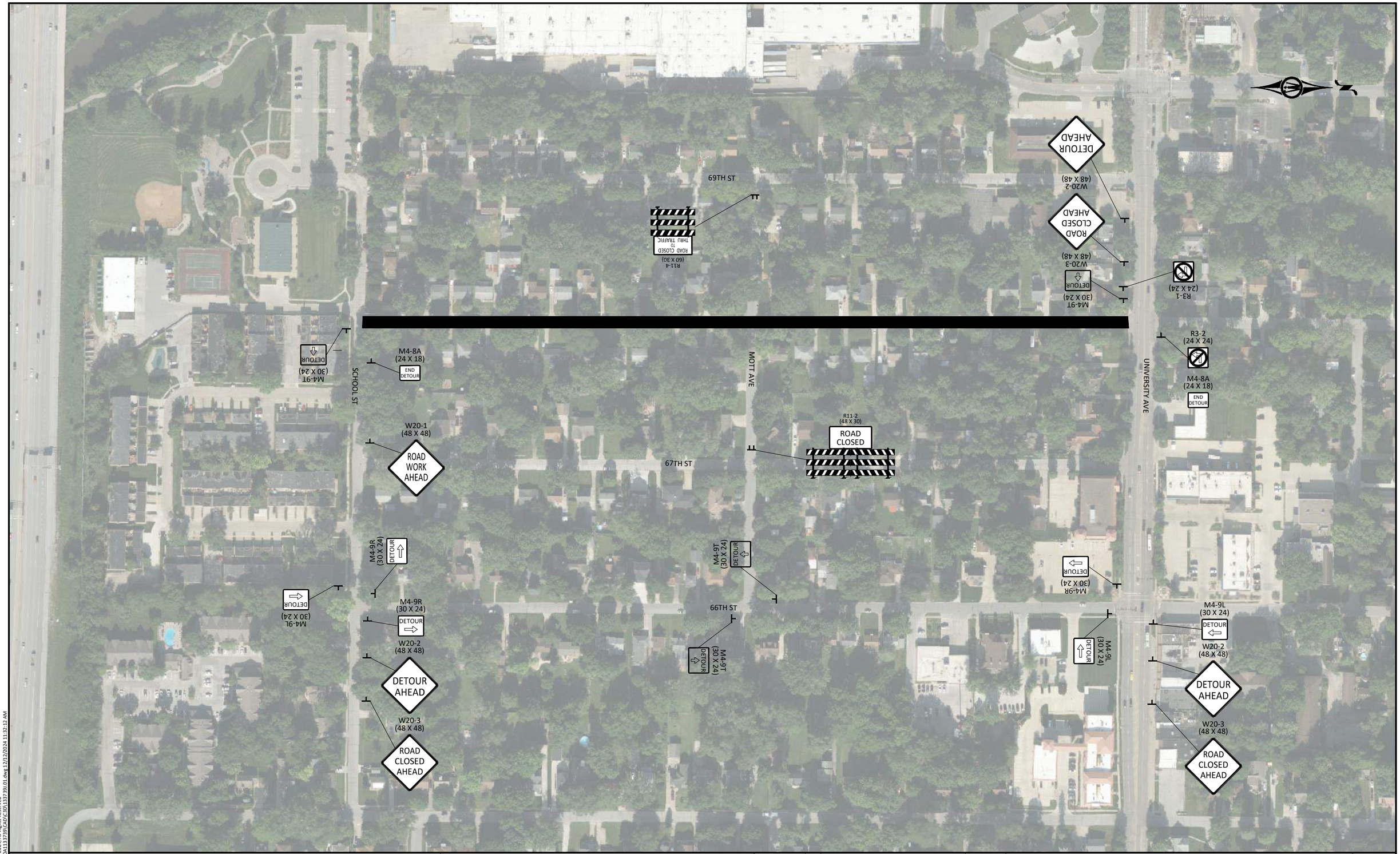
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TRAFFIC CONTROL - 68TH STREET

SHEET
J.05



HORZ. 0 100 200
SCALE FEET

WINDSOR HEIGHTS
FOR HOMES AT IT'S BEST

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
TRAFFIC CONTROL - 68TH STREET - DETOUR

SHEET
J.06

C-TRAF-SIGN-J.05-N

WINDSOR HEIGHTS

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REV	DESCRIPTION	DATE

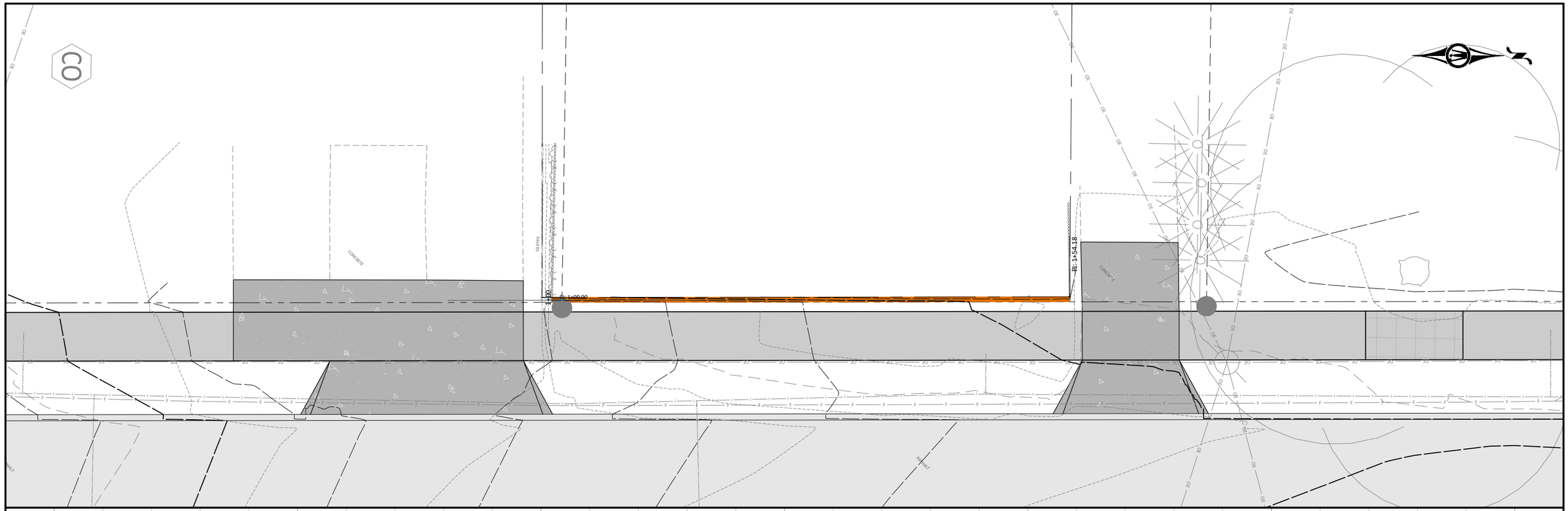
CITY OF WINDSOR HEIGHTS, IOWA

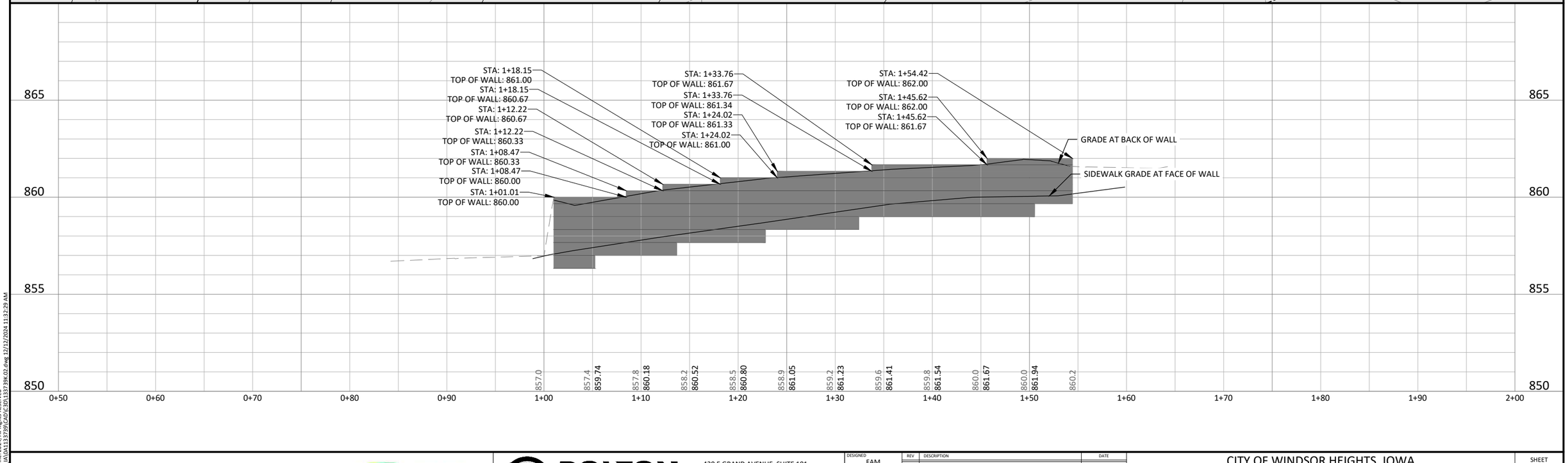
68TH STREET SOUTH RECONSTRUCTION

RETAINING WALL DETAILS

SHEET

K.01





HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

WINDSOR HEIGHTS
the heart of it all

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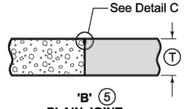
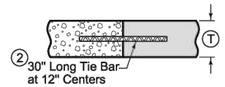
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
PLAN & PROFILE - RETAINING WALL

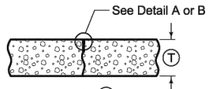
SHEET
K.02



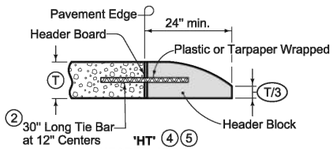
'B' ⑤
PLAIN JOINT
(Abutting Pavement Slabs)



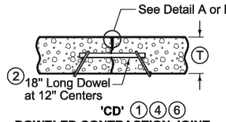
'DW' ③④⑦
DAY'S WORK JOINT(Non-working)



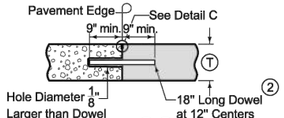
'C' ⑥
CONTRACTION JOINT



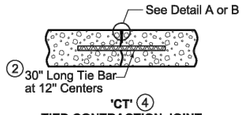
'HT' ④⑤
HEADER JOINT
(End Rigid Pavement)



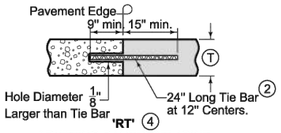
'CD' ①④⑥
DOWELED CONTRACTION JOINT



'RD' ④⑤
ABUTTING PAVEMENT JOINT



'CT' ④
TIED CONTRACTION JOINT



'RT' ④
ABUTTING PAVEMENT JOINT RIGID TIE

TRANSVERSE CONTRACTION

① See dowel assemblies for fabrication details.

② See Bar Size Table for Contraction Joints on Sheet 2.

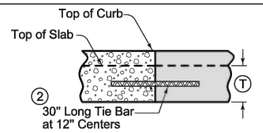
③ Locate 'DW' joint at a mid-panel location between future 'C' or 'CD' joints. Place no closer than 5 feet to a 'C' or 'CD' joint.

④ Place bars within the limits shown under dowel assemblies.

⑤ Edge with 1/8 inch tool for length of joint. For HT joint, remove header block and board when second slab is placed.

⑥ Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement when (T) is greater or equal to 8 inches. Use 'C' joints when (T) is less than 8 inches.

⑦ 'RT' joint may be used in lieu of 'DW' joint at the end of the days work. Remove any pavement damaged due to the drilling at no additional cost to the Contracting Authority.



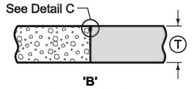
'DW - CG' ③④
DAY'S WORK JOINT CURB AND GUTTER UNIT

LEGEND
Existing Pavement
Proposed Pavement

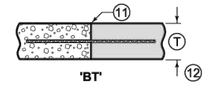
SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 1 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

JOINTS

FIGURE 7010.101 | SHEET 1 OF 8

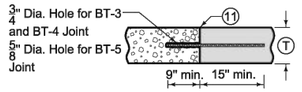


'B'
PLAIN JOINT
(Abutting Pavement Slabs)



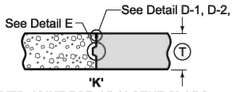
'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-1'	#4	36" Long at 30" Centers
		#5	30" Long at 30" Centers
≥ 8"	'BT-2'	#5	36" Long at 30" Centers

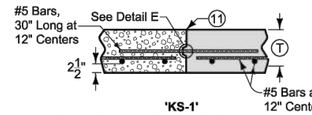


'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE (Drilled)

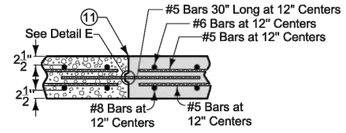
(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-5'	#4	24" Long at 30" Centers
≥ 8"	'BT-3'	#5	24" Long at 30" Centers
	'BT-4'		24" Long at 15" Centers



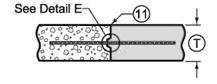
'K'
KEYED JOINT FOR ADJACENT SLABS
(Where T is 8" or more)



'KS-1'
[Single Reinforced Pavement (Bridge Approach)]



'KS-2'
[Double Reinforced Pavement (Bridge Approach)]



'KT' ⑩⑫
ABUTTING PAVEMENT JOINT - KEYWAY TIE

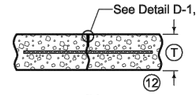
(T)	Joint	Bars	Bar Length and Spacing
< 8"	'KT-1'	#4	30" Long at 30" Centers
≥ 8"	'KT-2'	#5	30" Long at 30" Centers
	'KT-3'		30" Long at 15" Centers

LONGITUDINAL CONTRACTION

⑩ Bar supports may be necessary for fixed form paving to ensure the bar remains in a horizontal position in the plastic concrete.

⑪ Sawing or sealing of joint not required.

⑫ The following joints are interchangeable, subject to the pouring sequence:
'BT-1', 'L-1', and 'KT-1'
'KT-2' and 'L-2'
'KT-3' and 'L-3'



'L'
CONTRACTION JOINT

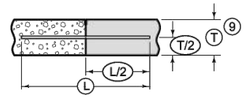
(T)	Joint	Bars	Bar Length and Spacing
< 8"	'L-1'	#4	36" Long at 30" Centers
≥ 8"	'L-2'	#5	36" Long at 30" Centers
	'L-3'		36" Long at 15" Centers

LEGEND
Existing Pavement
Proposed Pavement

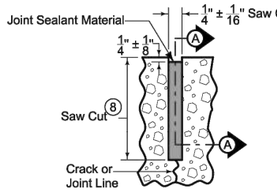
SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 3 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

JOINTS

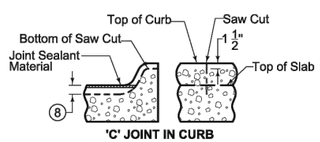
FIGURE 7010.101 | SHEET 3 OF 8



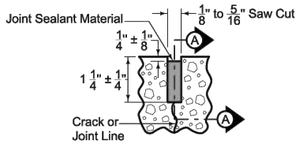
BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



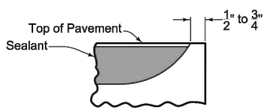
DETAIL A
(Saw cut formed by conventional concrete sawing equipment.)



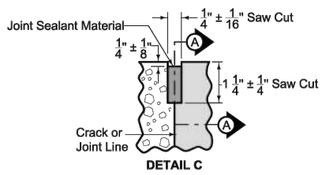
'C' JOINT IN CURB
(Match 'CT', 'CD', or 'C' joint in pavement.)



DETAIL B
(Saw cut formed by approved early concrete sawing equipment.)



SECTION A-A
(Detail at Edge of Pavement)



DETAIL C

BAR SIZE TABLE FOR CONTRACTION JOINTS			
(T)	Solid Dowel Diameter	Tubular Dowel Diameter	Tie Bar Size
< 8"	3/4"	7/8"	#6
≥ 8" but < 10"	1 1/4"	1 3/8"	#10
≥ 10"	1 1/2"	1 5/8"	#11
Tubular Dowel Bars will not be allowed for RD joints.			

⑧ Saw 'CD' joint to a depth of T/3 ± 1/4"; saw 'C' joint to a depth of T/4 ± 1/4".

⑨ When tying into old pavement, (T) represents the depth of sound PCC.

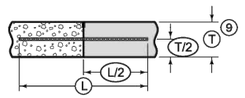
LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 2 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

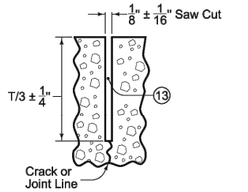
JOINTS

TRANSVERSE CONTRACTION

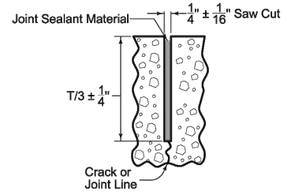
FIGURE 7010.101 | SHEET 2 OF 8



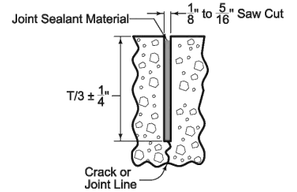
TIE BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



DETAIL D-1
(Required when specified in the contract documents.)



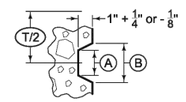
DETAIL D-2
(Required when the Department of Transportation is not the Contracting Authority, or when specified in the contract documents)



DETAIL D-3
(Required when the Department of Transportation is the Contracting Authority, or when specified in the contract documents)

⑨ When tying into old pavement, (T) represents the depth of sound PCC.

⑬ Sealant or cleaning not required.



DETAIL E

KEYWAY DIMENSIONS			
Keyway Type	Pavement Thickness (T)	(A)	(B)
Standard	8" or greater	1 3/4"	2 3/4"
Narrow	Less than 8"	1"	2"

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 4 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

JOINTS

LONGITUDINAL CONTRACTION

FIGURE 7010.101 | SHEET 4 OF 8

WINDSOR HEIGHTS

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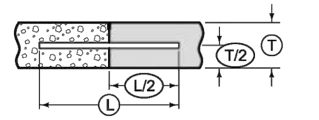
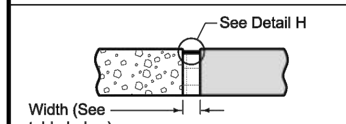
DRAWN PL			
CHECKED JLE			
CLIENT PROJ. NO. OA1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
JOINTING DETAILS

SHEET L.01

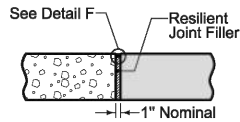


DOWEL PLACEMENT
(Applies to all joints unless otherwise detailed.)

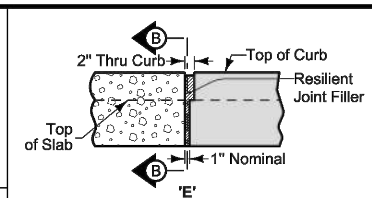


'CF' JOINT

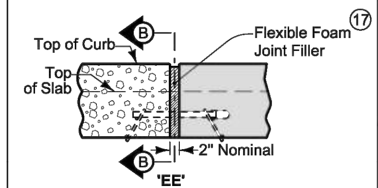
TYPE	WIDTH
CF-1	2"
CF-2	2 1/2"
CF-3	3"
CF-4	3 1/2"



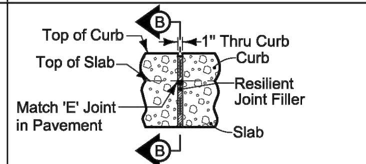
'E'
1" EXPANSION JOINT



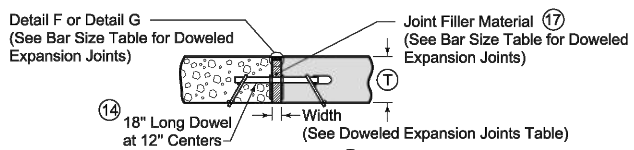
'E'
JOINT IN CURB
(View at Back of Curb)



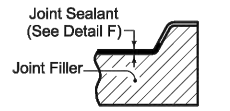
'EE'
JOINT IN CURB
(View at Back of Curb)



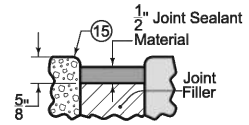
'ES'
JOINT IN CURB
(View at Back of Curb)



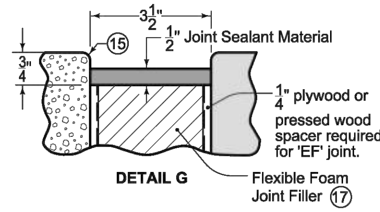
'ED', 'EE', 'EF' 16
DOWELED EXPANSION JOINT



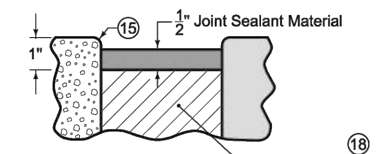
SECTION B-B



DETAIL F



DETAIL G



DETAIL H

EXPANSION

14 See Bar Size Table for Doweled Expansion Joints.

15 Edge with 1/4 inch tool for length of joint indicated if formed; edging not required when cut with diamond blade saw.

16 See Dowel Assemblies for fabrication details and placement limits. Coat the free end of dowel bar to prevent bond with pavement. At intake locations, dowel bars may be cast-in-place.

17 Predrill or preform holes in joint material for appropriate dowel size.

18 Compact tire buffings by spading with a square-nose shovel.

DOWELED EXPANSION JOINTS		
TYPE	WIDTH	FILLER MATERIAL 17
ED	1"	Resilient (Detail F)
EE	2"	Flexible Foam (Detail F)
EF	3 1/2"	Flexible Foam (Detail G)

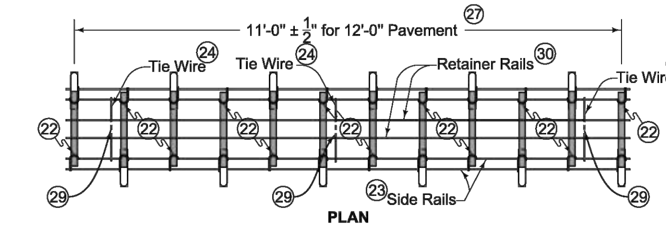
BAR SIZE TABLE FOR DOWELED EXPANSION JOINTS			
T	< 8"	≥ 8" but < 10"	≥ 10"
Dowel Diameter	3/4"	1 1/4"	1 1/2"
Tubular Dowel Bars will not be allowed for expansion joints.			

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 5 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
JOINTS

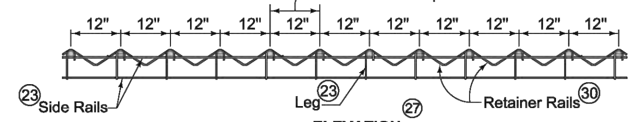
FIGURE 7010.101 SHEET 5 OF 8

EXPANSION JOINTS

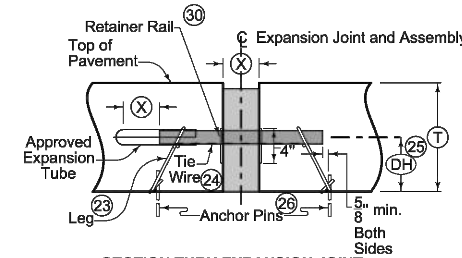


PLAN

Spaces between dowel bars are nominal dimensions with a 1/4" allowable tolerance.



ELEVATION



SECTION THRU EXPANSION JOINT

JOINT OPENING AND EXPANSION TUBE EXTENSION		
Joint Type	X	Minimum Tube Length
"ED"	1"	6"
"EE"	2"	7"
"EF"	3 1/2"	9"

DOWEL HEIGHT AND DIAMETER FOR DOWELED EXPANSION JOINTS		
T	DH 25	Diameter
7" to 7 1/2"	3 1/2"	3/4"
8" to 9 1/2"	4 1/4"	1 1/4"
10" to 11 1/2"	5 1/4"	1 1/2"
12" to 13"	6 1/4"	1 1/2"
Tubular Dowel Bars will not be allowed for expansion joints.		

DOWEL ASSEMBLIES 19 20 21

19 Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

20 Use wires with a minimum tensile strength of 50 ksi.

21 Details apply to both transverse contraction and expansion joints.

22 Weld alternately throughout.

23 0.306 inch diameter wire. Wire sizes shown are the minimum required.

24 Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.

25 Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.

26 Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.

27 If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.

28 Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

29 Clip and remove center portion of tie during field assembly.

30 1/4 inch diameter wire.

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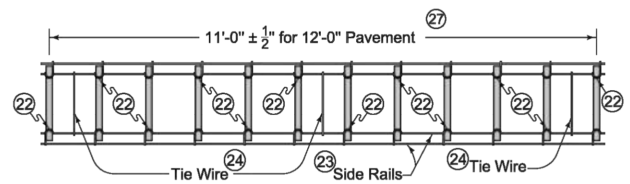
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 7 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
JOINTS

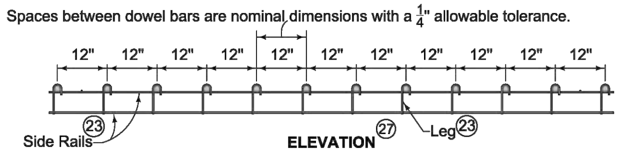
FIGURE 7010.101 SHEET 7 OF 8

CONTRACTION JOINTS

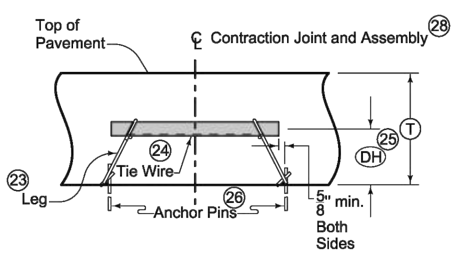


PLAN

Spaces between dowel bars are nominal dimensions with a 1/4" allowable tolerance.



ELEVATION



LONGITUDINAL SECTION

DOWEL HEIGHT AND DIAMETER FOR DOWELED CONTRACTION JOINTS			
T	DH 25	Diameter (Solid)	Diameter (Tubular)
7" to 7 1/2"	3 1/2"	3/4"	7/8"
8" to 9 1/2"	4 1/4"	1 1/4"	1 3/8"
10" to 11 1/2"	5 1/4"	1 1/2"	1 5/8"
12" to 13"	6 1/4"	1 1/2"	1 5/8"
Tubular Dowel Bars will not be allowed for RD joints.			

DOWEL ASSEMBLIES 19 20 21

19 Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

20 Use wires with a minimum tensile strength of 50 ksi.

21 Details apply to both transverse contraction and expansion joints.

22 Weld alternately throughout.

23 0.306 inch diameter wire. Wire sizes shown are the minimum required.

24 Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.

25 Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.

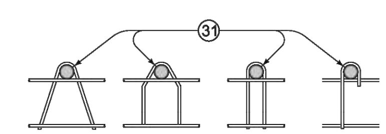
26 Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.

27 If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.

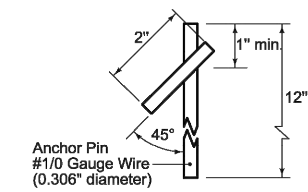
28 Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 6 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
JOINTS

FIGURE 7010.101 SHEET 6 OF 8



OPTIONAL LEG SHAPES



ANCHOR PIN

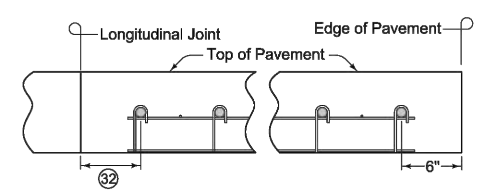
19 Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

20 Use wires with a minimum tensile strength of 50 ksi.

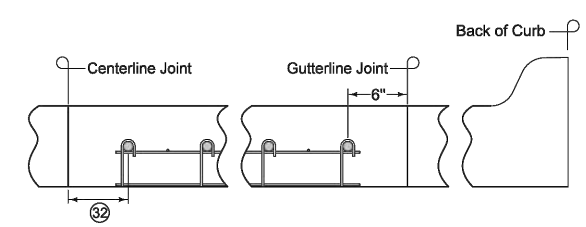
21 Details apply to both transverse contraction and expansion joints.

31 Diameter of bend around dowel is dowel diameter + 1/8 to 3/16 inches.

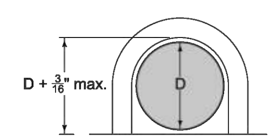
32 For uniform lane widths: 3 to 6 inches. For taper and variable width pavements: 3 to 12 inches.



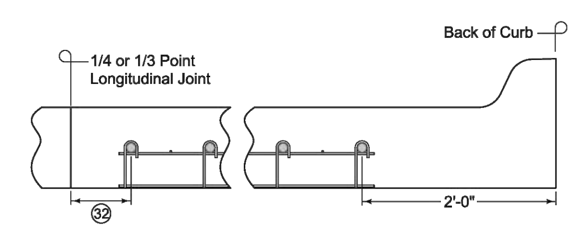
PLACEMENT LIMITS
(Rural Section)



PLACEMENT LIMITS
(Curb and Gutter - Gutterline Jointing)



BEND AROUND DOWEL 31



PLACEMENT LIMITS
(Curb and Gutter - 1/4 or 1/3 Point Jointing)

DOWEL ASSEMBLIES 19 20 21

SUDAS | IOWADOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 8 of 8
REVISIONS: Modified circle note 32.
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JOINTS

FIGURE 7010.101 SHEET 8 OF 8

WINDSOR HEIGHTS the heart of it all

BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

DESIGNED FAM
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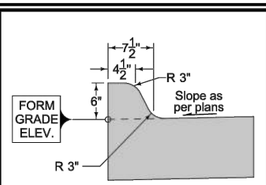
CHECKED JLE
CLIENT PROJ. NO. 0A1.133739

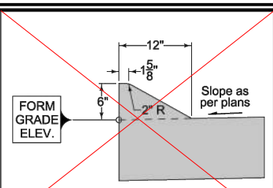
REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
JOINTING DETAILS

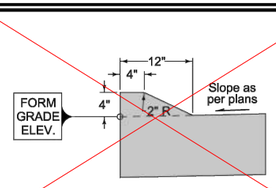
SHEET L.02



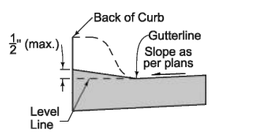
6" STANDARD CURB



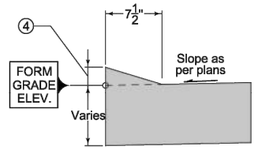
6" SLOPED CURB



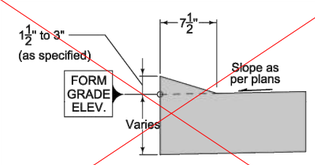
4" SLOPED CURB



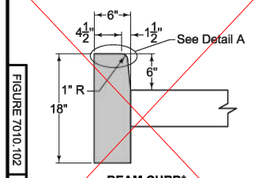
DROP CURB AT SIDEWALK



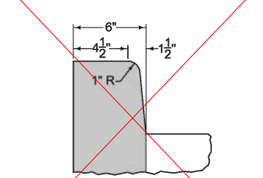
DRIVEWAY DROP CURB (IowaDepartment of Transportation is not the Contracting Authority)



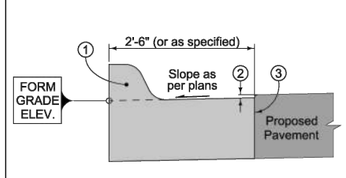
DRIVEWAY DROP CURB (Iowa Department of Transportation is the Contracting Authority)



BEAM CURB*
*For short replacement sections, match existing curb profile



DETAIL A



CURB AND GUTTER UNIT

For joint details, see PV-101.

1. 6 inch Standard Curb, 6 inch Sloped Curb, or 4 inch Sloped Curb as specified.
2. $\frac{1}{8}$ inch if Proposed Pavement is HMA. No elevation difference if Proposed Pavement is PCC.
3. 'BT' , 'KT', or 'L' joint if Proposed Pavement is PCC. 'B' joint if Proposed Pavement is HMA.
4. 0 to 2 inches for residential entrances. $1\frac{1}{2}$ to 3 inches for industrial or commercial entrances.

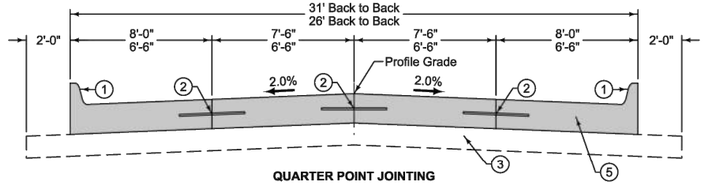
SUDAS	IOWADOT	REVISION 5 04-21-20
FIGURE 7010.102	STANDARD ROAD PLAN	PV-102 SHEET 1 of 2

REVISIONS: Split DRIVEWAY DROP CURB detail into two details. Added new circle note 4 on Sheet 1. Renumbered cirlce note on Sheet 5.

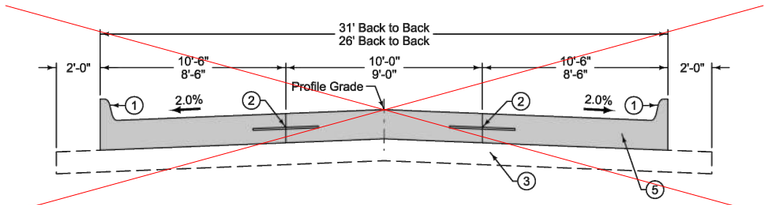
Paul D. Wiegand, SUDAS DIRECTOR — Heath Mohn, DESIGN METHODS ENGINEER

PCC CURB DETAILS

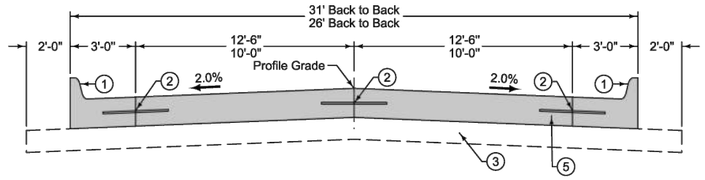
FIGURE 7010.102 | SHEET 1 OF 2



QUARTER POINT JOINTING



THIRD POINT JOINTING



GUTTERLINE JOINTING

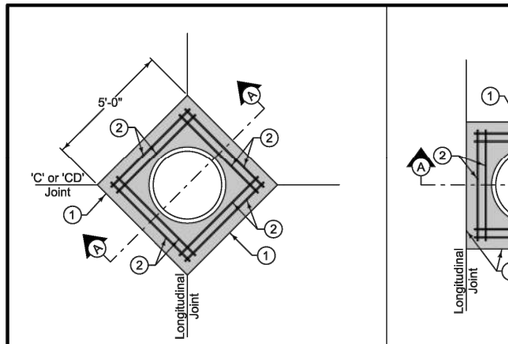
1. 6 inch standard curb.
2. BT, KT, or L joint depending on pavement thickness and construction staging.
3. Subbase or subgrade as specified.
4. Unless otherwise specified in the contract documents.
5. No dowels within 24" of the back of curb. With gutterline joint, place first dowel 6 inches from the joint. See Figure 7010.101, Sheet 8.

TRANSVERSE JOINT REQUIREMENTS (4)		
Pavement Thickness	Transverse Joint Type	Transverse Joint Spacing
6"	C	12'
7"	C	15'
8"	CD (5)	15'
9"	CD (5)	15'
≥10"	CD (5)	17'

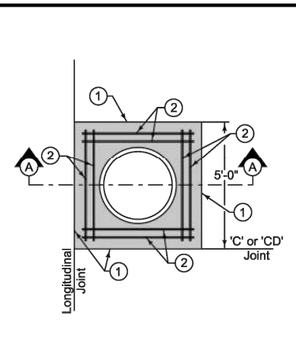
SUDAS	REVISION 2 2022 Edition
SUDAS Standard Specifications	7010.901 SHEET 1 of 1

PCC PAVEMENT JOINTING

FIGURE 7010.901 | SHEET 1 OF 1



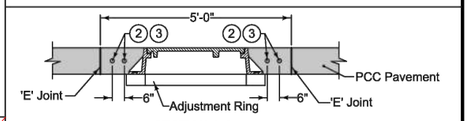
AT JOINT INTERSECTION



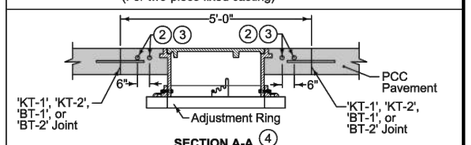
OFFSET AT JOINT INTERSECTION

Construct boxout with Class C concrete or match pavement class. Minimum 2 inches clear on reinforcement. Minimum 12 inches of concrete between outside of casting and nearest joint. Center casting within boxout area if possible.

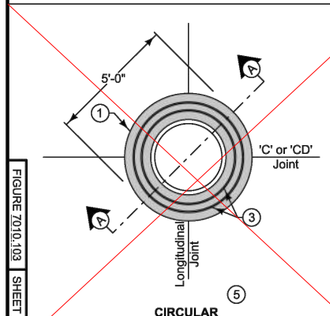
1. 'KT-1', 'KT-2', 'BT-1', or 'BT-2' joint if three-piece floating casting (SW 601 Type B and D or SW-602 Type F) is used. 'E' joint if two-piece fixed casting (SW 601 Type A and C or SW-602 Type E) is used.
2. 4 foot 8 inch (typ.) #4 bar. Place at mid-slab.
3. #4 hoops (variable length). Place at mid-slab.
4. No boxout is required for three-piece floating castings (SW 601 Type B and D or SW-602 Type F). If a boxout is used with a three-piece casting, construct as detailed in Section A-A for three-piece floating casting.
5. If a circular boxout is cut and extracted after PCC construction, a 'B' joint may be substituted for the 'E' joint if approved by the Engineer.



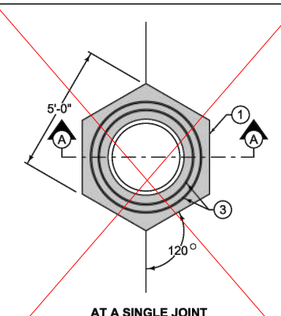
SECTION A-A
(For two-piece fixed casting)



SECTION A-A (4)
(For three-piece floating casting)



CIRCULAR



AT A SINGLE JOINT

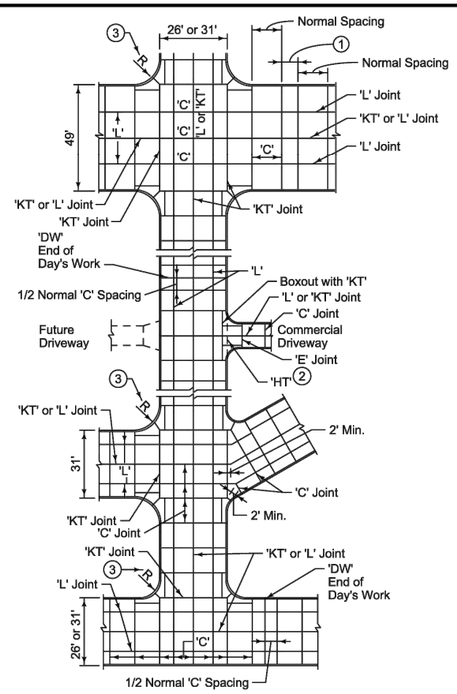
SUDAS	IOWADOT	REVISION 2 04-19-22
FIGURE 7010.103	STANDARD ROAD PLAN	PV-103 SHEET 1 of 1

REVISIONS: Added note 5.

Paul D. Wiegand, SUDAS DIRECTOR — Heath Mohn, DESIGN METHODS ENGINEER

MANHOLE BOXOUTS IN PCC PAVEMENT

FIGURE 7010.103 | SHEET 1 OF 1



PLAN VIEW

Refer to Figure 7010.901 for maximum transverse joint spacing.

Where new and existing pavements meet, and no existing dowels, tie bars, or keyed joints are present, provide a 'BT', 'RT', or 'RD' joint.

1. Shorten jointing pattern on either side of openings to allow joints to intersect round castings and fall at the edges of intake boxouts.
2. Where pavement abuts an unimproved street, terminate with a type 'HT' joint.
3. When radius exceed 20 feet, add one additional 'C' joint at radius intersections.

SUDAS	REVISION New 10-19-10
SUDAS Standard Specifications	7010.904 SHEET 1 of 1

TYPICAL JOINTING LAYOUT

FIGURE 7010.904 | SHEET 1 OF 1

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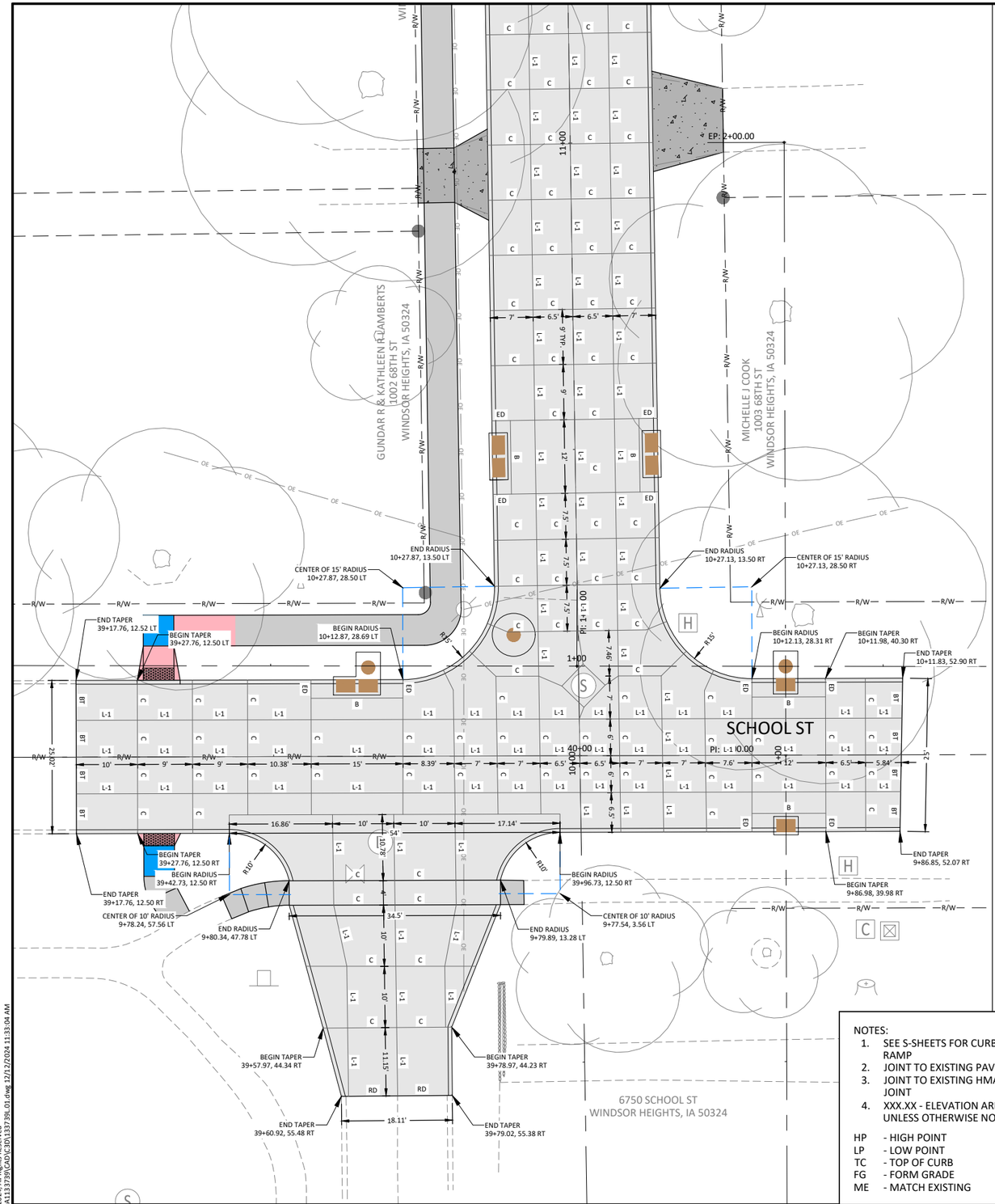
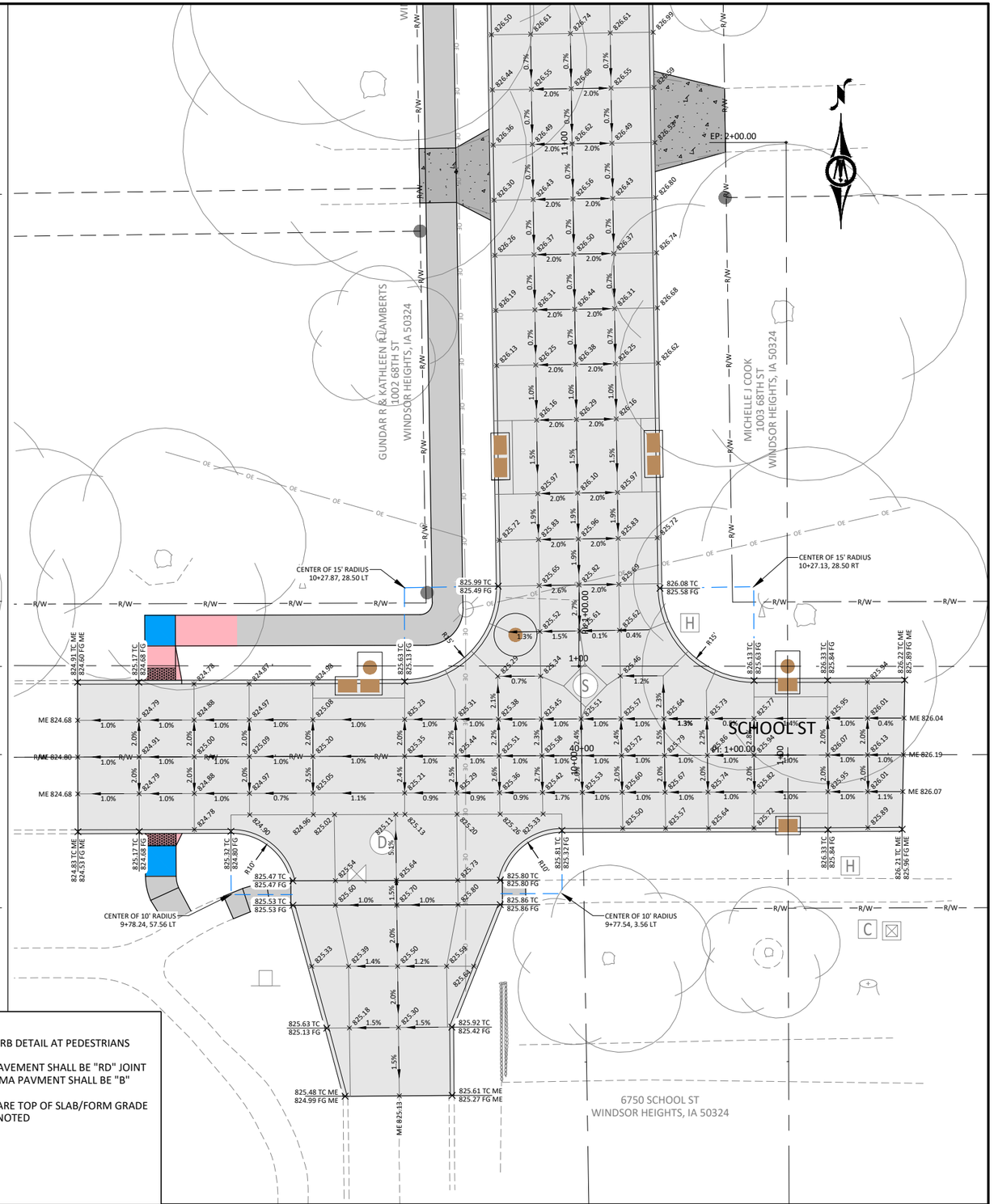
68TH STREET SOUTH RECONSTRUCTION
JOINTING DETAILS

SHEET L.03





NOTES:

1. SEE S-SHEETS FOR CURB DETAIL AT PEDESTRIANS RAMP
2. JOINT TO EXISTING PAVEMENT SHALL BE "RD" JOINT
3. JOINT TO EXISTING HMA PAVMENT SHALL BE "B" JOINT
4. XXX.XX - ELEVATION ARE TOP OF SLAB/FORM GRADE UNLESS OTHERWISE NOTED

HP - HIGH POINT
LP - LOW POINT
TC - TOP OF CURB
FG - FORM GRADE
ME - MATCH EXISTING

HORZ. SCALE 0 10 20 FEET

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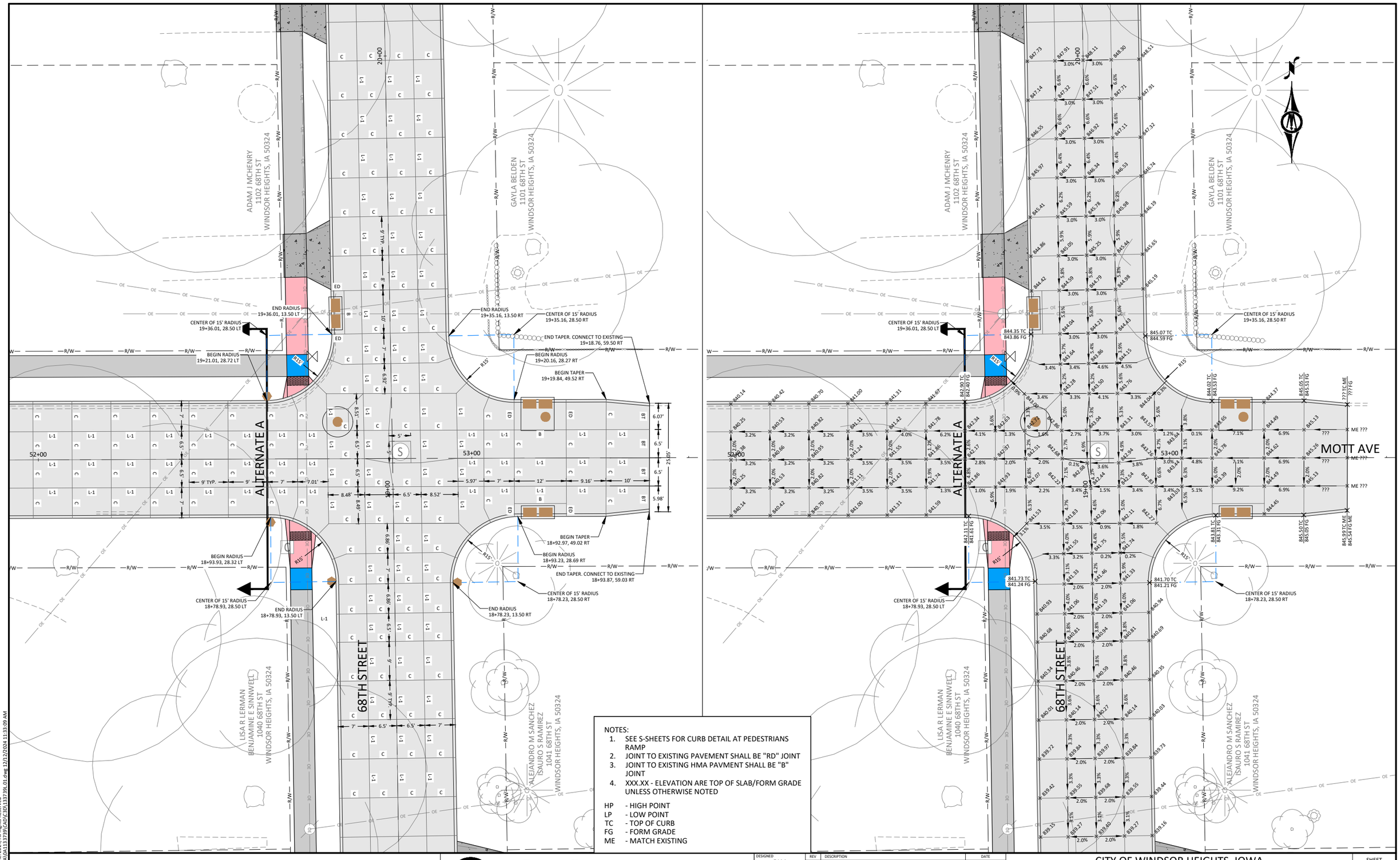
INTERSECTION DETAILS - 68TH STREET

SHEET L.04



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INTERSECTION DETAILS - 68TH STREET

SHEET L.05

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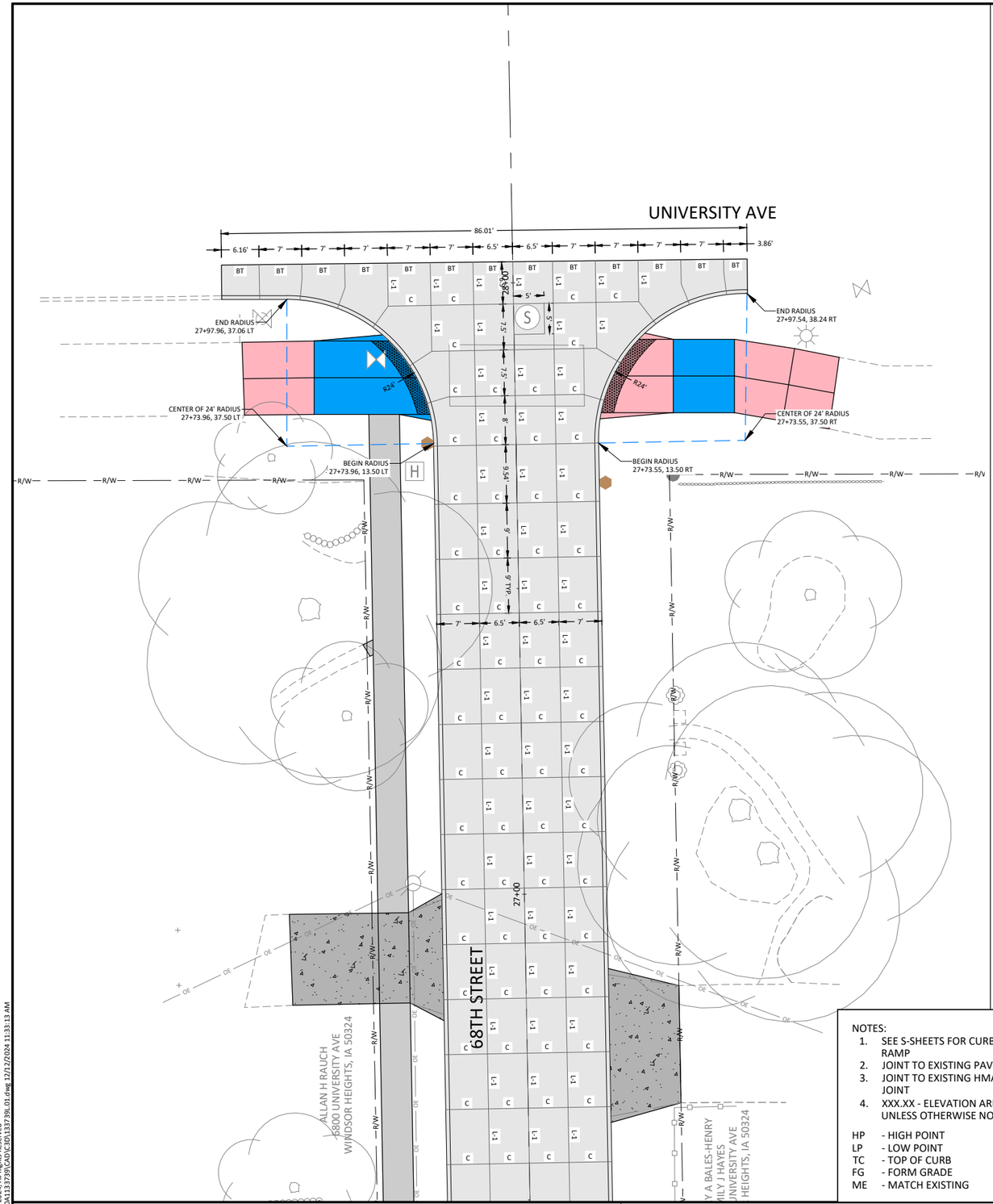

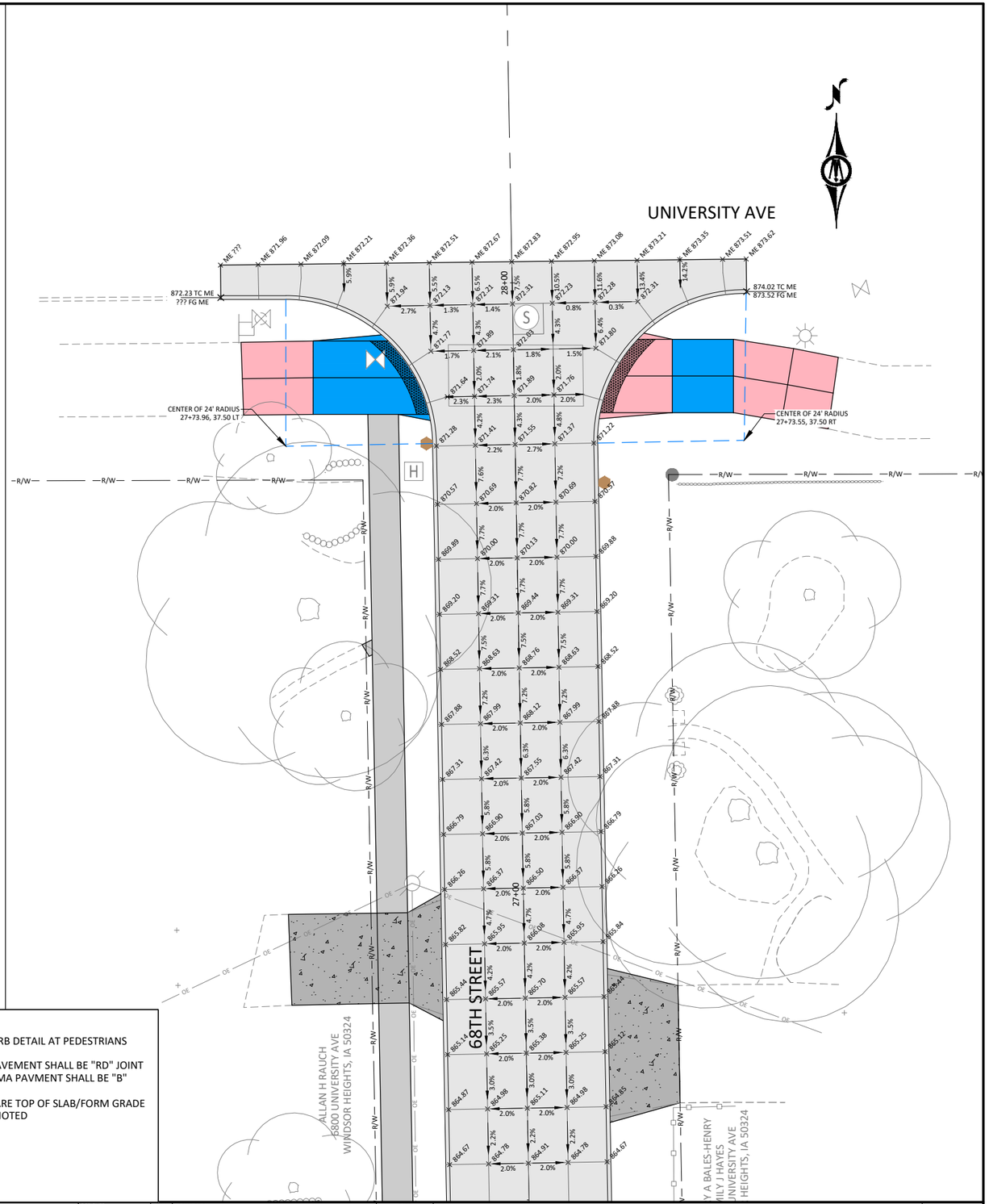

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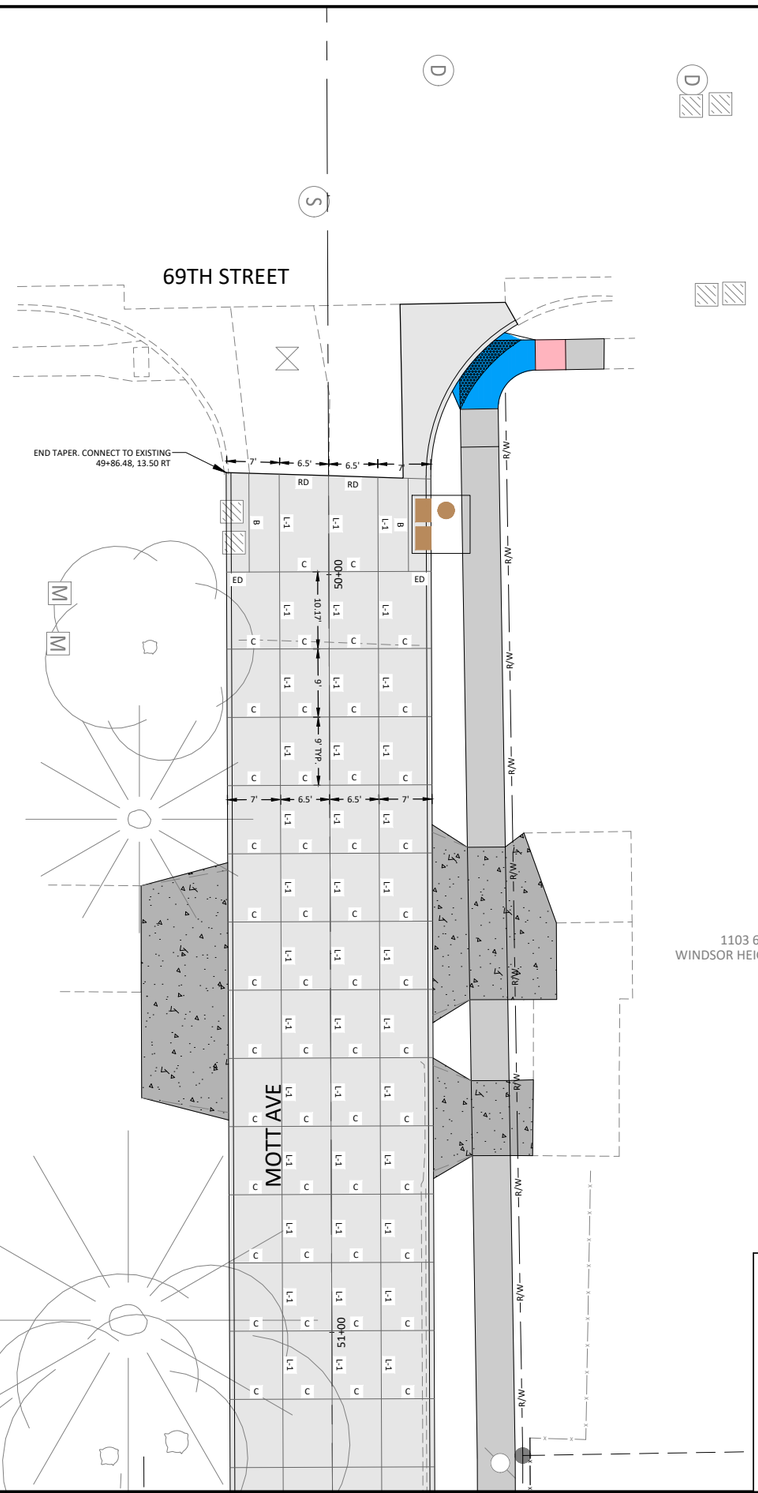
INTERSECTION DETAILS - 68TH STREET

SHEET L.06



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HORZ. 0 10 20
SCALE FEET

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
INTERSECTION DETAILS - MOTT AVENUE

SHEET
L.07

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET	TYPE	FG/RIM ELEV	INLET ELEV	OUTLET ELEV
INT - 2	10+49.06	-13.50' LT	SW-505 N	825.96	821.73, 15" N (PIPE - 3) 821.73, 15" E (PIPE - 5) 822.95, 6" HDPE N (TILE - 1)	821.63, 15" S (PIPE - 2)
INT - 3	13+64.87	-13.50' LT	SW-505 N	830.49	826.13, 15" E (PIPE - 6) 826.13, 15" N (PIPE - 4) 827.49, 6" HDPE N (TILE - 4)	826.03, 15" S (PIPE - 3)
INT - 4	16+24.78	-13.50' LT	SW-505 N	834.74	830.24, 15" E (PIPE - 7) 831.74, 6" HDPE N (TILE - 6)	830.14, 15" S (PIPE - 4)
INT - 5	10+49.06	13.50' RT	SW-505 N	825.96	822.95, 6" HDPE N (TILE - 8)	822.23, 15" W (PIPE - 5)
INT - 6	13+64.87	13.50' RT	SW-505 N	830.49	827.49, 6" HDPE N (TILE - 11)	826.63, 15" W (PIPE - 6)
INT - 7	16+24.78	13.50' RT	SW-505 N	834.74	831.74, 6" HDPE N (TILE - 13)	830.74, 15" W (PIPE - 7)
INT - 8	19+24.65	-275.56' LT	SW-516 (Double Type R Grate, 72 in MH LEFT)	836.35	831.56, 44"x27" RCAP E (PIPE - 9) 832.23, 15" RCP-E S (PIPE - (-44))	831.24, 47"x27" RCAP-E W (PIPE - (-41))
INT - 11	19+40.83	-13.50' LT	SW-505 N	844.11	840.05, 15" N (PIPE - 12) 841.11, 6" HDPE N (TILE - 15)	839.95, 15" S (PIPE - 11)
INT - 12	21+57.31	-1.00' LT	SW-501	858.52	854.82, 6" HDPE N (TILE - 17) 854.13, 15" N (PIPE - 13)	854.03, 15" S (PIPE - 12)
INT - 13	23+85.70	-13.50' LT	SW-507 (On Sag)	859.03	855.35, 15" N (PIPE - 14) 855.35, 15" E (PIPE - 15) 856.03, 6" HDPE N (TILE - 19)	855.25, 15" S (PIPE - 13)
INT - 14	26+03.61	-13.50' LT	SW-505	864.03	859.55, 15" E (PIPE - 16) 861.03, 6" HDPE N (TILE - 21)	859.45, 15" S (PIPE - 14)
INT - 15	23+85.68	13.50' RT	SW-507 (On Sag)	859.16	856.19, 8" PP E (PIPE - 19) 856.64, 6" HDPE N (TILE - 27)	855.89, 15" W (PIPE - 15)
INT - 16	26+03.61	13.46' RT	SW-505	864.03	861.03, 6" HDPE N (TILE - 29)	860.05, 15" W (PIPE - 16)
INT - 17	19+18.08	33.65' RT	SW-516 (Double Type R Grate, 72 in MH Right)	844.43	839.38, 15" S (PIPE - 18) 838.60, 36" RCP E (PIPE - 24) 840.55, 6" HDPE W (TILE - 23)	838.50, 36 W (PIPE - 17)
INT - 18	18+93.17	33.31' RT	SW-505 N	843.90		839.79, 15" N (PIPE - 18)
INT - 19	23+84.88	39.99' RT	18" CATCH BASIN	858.84		856.42, 8" PP W (PIPE - 19)
INT - 20	23+86.28	-45.34' LT	18" CATCH BASIN	855.67		854.00, 12" RCP-E W (PIPE - (-78))
INT - 21	10+12.40	-25.54' LT	SW-506 (Double Type R Grate, 72in MH Right)	825.04	819.96, 12" E (PIPE - 22)	819.86, 12" S (PIPE - 21)
INT - 22	10+12.57	44.45' RT	SW-503 (36inX72in)	825.22	821.64, 8" HDPE-E NE (EX PIPE - (14)) 821.36, 12" S (PIPE - 23)	821.26, 12" W (PIPE - 22)
INT - 23	9+87.56	44.51' RT	SW-501	825.76		821.86, 12" N (PIPE - 23)
MH - 1	10+19.71	0.05' RT	SW-401 (72in)	N/A	821.40, 37"x23" RCAP E (PIPE - 8) 821.32, 15" N (PIPE - 2)	821.20, 37"x23" RCAP W (PIPE - 1)
MH - 9	19+17.36	-144.07' LT	SW-401 (72in)	N/A	832.33, 36" RCP E (PIPE - 10) 833.58, 6" HDPE NE (TILE - 33)	832.22, 44"x27" RCAP W (PIPE - 9)
MH - 10	19+15.78	-12.50' LT	SW-401 (72in)	N/A	838.44, 15" N (PIPE - 11) 837.54, 36 E (PIPE - 17)	836.65, 36" RCP W (PIPE - 10)

STORM SEWER PIPES

FROM STRUCTURE	TO STRUCTURE	PIPE ID	PIPE DIA	LENGTH	PIPE GRADE	START INV	END INV
MH - 1	EX PIPE - 1	PIPE - 1	37"x23" RCAP	15 LF	0.50%	821.20	821.13
INT - 2	MH - 1	PIPE - 2	15"	29 LF	1.30%	821.63	821.32
INT - 3	INT - 2	PIPE - 3	15"	316 LF	1.36%	826.03	821.73
INT - 4	INT - 3	PIPE - 4	15"	260 LF	1.56%	830.14	826.13
INT - 5	INT - 2	PIPE - 5	15"	27 LF	2.00%	822.23	821.73
INT - 6	INT - 3	PIPE - 6	15"	27 LF	2.00%	826.63	826.13
INT - 7	INT - 4	PIPE - 7	15"	27 LF	2.00%	830.74	830.24
EX PIPE - 2	MH - 1	PIPE - 8	37"x23" RCAP	35 LF	1.20%	821.82	821.40
MH - 9	INT - 8	PIPE - 9	44"x27" RCAP	132 LF	0.50%	832.22	831.56
MH - 10	MH - 9	PIPE - 10	36" RCP	144 LF	3.00%	836.65	832.33
INT - 11	MH - 10	PIPE - 11	15"	25 LF	6.06%	839.95	838.44
INT - 12	INT - 11	PIPE - 12	15"	217 LF	6.50%	854.03	840.05
INT - 13	INT - 12	PIPE - 13	15"	228 LF	0.50%	855.25	854.13
INT - 14	INT - 13	PIPE - 14	15"	218 LF	1.90%	859.45	855.35
INT - 15	INT - 13	PIPE - 15	15"	27 LF	2.00%	855.89	855.35
INT - 16	INT - 14	PIPE - 16	15"	27 LF	2.00%	860.05	859.55
INT - 17	MH - 10	PIPE - 17	36	46 LF	2.00%	838.50	837.54
INT - 18	INT - 17	PIPE - 18	15"	25 LF	2.00%	839.79	839.38
INT - 19	INT - 15	PIPE - 19	8" PP	12 LF	2.00%	856.42	856.19
INT - 21	EX MH - 1	PIPE - 21	12"	27 LF	1.41%	819.86	819.51
INT - 22	INT - 21	PIPE - 22	12"	70 LF	2.00%	821.26	819.96
INT - 23	INT - 22	PIPE - 23	12"	25 LF	2.00%	821.86	821.36
PIPE - 25	INT - 17	PIPE - 24	36" RCP	12 LF	2.00%	838.77	838.60

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER TABULATION

SHEET
M1.01

CLEANOUT STRUCTURES

STRUCTURE	STATION	OFFSET	TYPE	FG/RIM ELEV	INLET ELEV	OUTLET ELEV
C0 - 2	13+60.05	-14.50' LT	6 Cleanout	830.97		827.59, 6" HDPE S (TILE - 3)
CO - 1	12+01.95	-2.00' LT	6 Cleanout	827.85	825.22, 6" HDPE N (TILE - 3)	825.22, 6" HDPE S (TILE - 2)
CO - 3	16+19.95	-14.50' LT	6 Cleanout	835.09		831.96, 6" HDPE S (TILE - 5)
CO - 4	18+78.93	-14.50' LT	6 Cleanout	841.82		838.10, 6" HDPE S (TILE - 7)
CO - 5	11+94.98	27.00' RT	6 Cleanout	827.79	824.77, 6" HDPE N (TILE - 10)	824.77, 6" HDPE S (TILE - 9)
CO - 6	13+60.03	14.50' RT	6 Cleanout	830.92		826.83, 6" HDPE S (TILE - 10)
CO - 7	16+19.94	14.50' RT	6 Cleanout	835.25		831.96, 6" HDPE S (TILE - 12)
CO - 8	18+78.23	14.50' RT	6 Cleanout	841.86		838.08, 6" HDPE S (TILE - 14)
CO - 9	21+54.43	-14.50' LT	6 Cleanout	858.88		856.39, 6" HDPE S (TILE - 16)
CO - 10	23+81.20	-16.97' LT	6 Cleanout	859.14		857.06, 6" HDPE S (TILE - 18)
CO - 11	25+97.78	-14.57' LT	6 Cleanout	864.39		861.33, 6" HDPE S (TILE - 20)
CO - 12	27+73.98	-14.50' LT	6 Cleanout	871.76		865.29, 6" HDPE S (TILE - 22)
CO - 13	21+54.43	14.50' RT	6 Cleanout	859.98	856.54, 6" HDPE N (TILE - 26)	856.54, 6" HDPE S (TILE - 25)
CO - 14	23+81.16	14.50' RT	6 Cleanout	859.69		857.67, 6" HDPE S (TILE - 26)
CO - 15	25+98.61	14.50' RT	6 Cleanout	864.48		860.86, 6" HDPE S (TILE - 28)

SUBDRAIN PIPES

FROM STRUCTURE	TO STRUCTURE	PIPE ID	PIPE DIA	LENGTH	PIPE GRADE	START INV	END INV
TILE - 1	INT - 2	TILE - 1	6" HDPE	5 LF	1.00%	823.00	822.95
CO - 1	TILE - 1	TILE - 2	6" HDPE	148 LF	1.50%	825.22	823.00
C0 - 2	CO - 1	TILE - 3	6" HDPE	158 LF	1.50%	827.59	825.22
TILE - 5	INT - 3	TILE - 4	6" HDPE	5 LF	1.75%	827.58	827.49
CO - 3	TILE - 5	TILE - 5	6" HDPE	250 LF	1.75%	831.96	827.58
TILE - 7	INT - 4	TILE - 6	6" HDPE	5 LF	2.50%	831.87	831.74
CO - 4	TILE - 7	TILE - 7	6" HDPE	249 LF	2.50%	838.10	831.87
TILE - 9	INT - 5	TILE - 8	6" HDPE	5 LF	1.25%	823.01	822.95
CO - 5	TILE - 9	TILE - 9	6" HDPE	141 LF	1.25%	824.77	823.01
CO - 6	CO - 5	TILE - 10	6" HDPE	165 LF	1.25%	826.83	824.77
TILE - 12	INT - 6	TILE - 11	6" HDPE	5 LF	1.75%	827.58	827.49
CO - 7	TILE - 12	TILE - 12	6" HDPE	250 LF	1.75%	831.96	827.58
TILE - 14	INT - 7	TILE - 13	6" HDPE	5 LF	2.50%	831.87	831.74
CO - 8	TILE - 14	TILE - 14	6" HDPE	248 LF	2.50%	838.08	831.87
TILE - 16	INT - 11	TILE - 15	6" HDPE	5 LF	7.15%	841.47	841.11
CO - 9	TILE - 16	TILE - 16	6" HDPE	209 LF	7.15%	856.39	841.47
CO - 10	TILE - 18	TILE - 18	6" HDPE	221 LF	1.00%	857.06	854.85
TILE -20	INT - 13	TILE - 19	6" HDPE	7 LF	2.50%	856.17	856.03
CO - 11	TILE -20	TILE - 20	6" HDPE	207 LF	2.50%	861.33	856.17
TILE - 22	INT - 14	TILE - 21	6" HDPE	5 LF	2.50%	861.15	861.03
CO - 12	TILE - 22	TILE - 22	6" HDPE	166 LF	2.50%	865.29	861.15
TILE - 24	INT - 17	TILE - 23	6" HDPE	6 LF	2.00%	840.66	840.55
TILE - 25	TILE - 24	TILE - 24	6" HDPE	22 LF	2.00%	841.10	840.66
CO - 14	CO - 13	TILE - 26	6" HDPE	227 LF	0.50%	857.67	856.54
TILE - 28	INT - 15	TILE - 27	6" HDPE	5 LF	2.00%	856.70	856.64
CO - 15	TILE - 28	TILE - 28	6" HDPE	208 LF	2.00%	860.86	856.70
TILE - 30	INT - 16	TILE - 29	6" HDPE	5 LF	2.50%	861.15	861.03
CO - 16	TILE - 30	TILE - 30	6" HDPE	159 LF	2.50%	865.09	861.13

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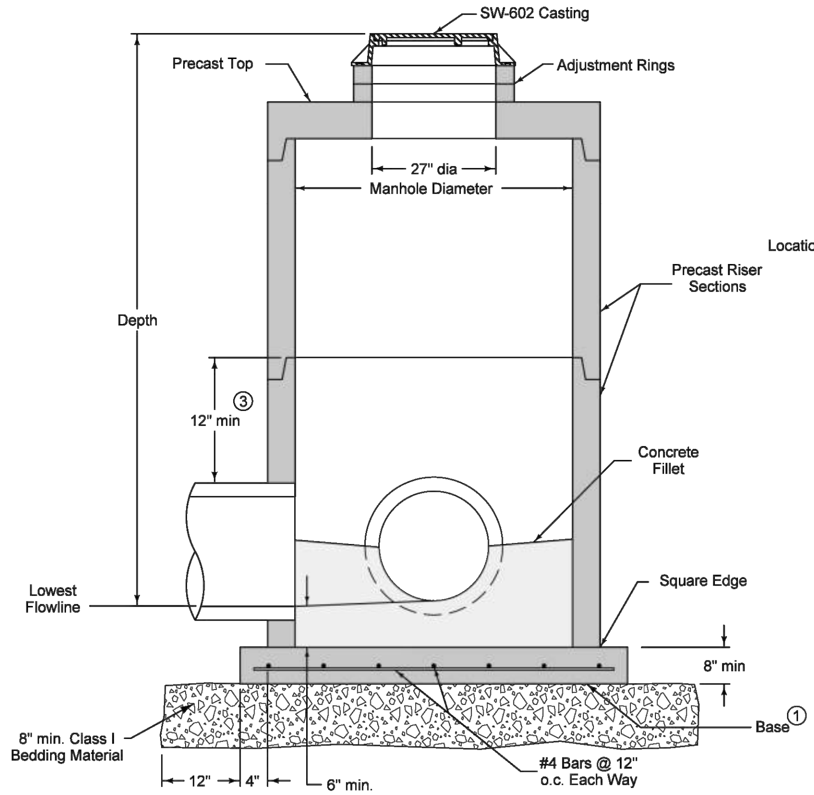
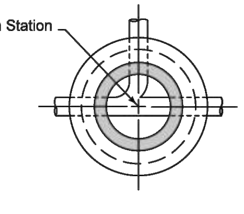
STORM SEWER TABULATION

SHEET M1.02



TYPICAL SECTION



PLAN

If manhole depth exceeds 20 feet, install steps.

1. Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
2. For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
3. 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter (2) (inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

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FIGURE 6010.401 | STANDARD ROAD PLAN | SW-401 | SHEET 1 of 1

REVISIONS: Added manhole depth note.

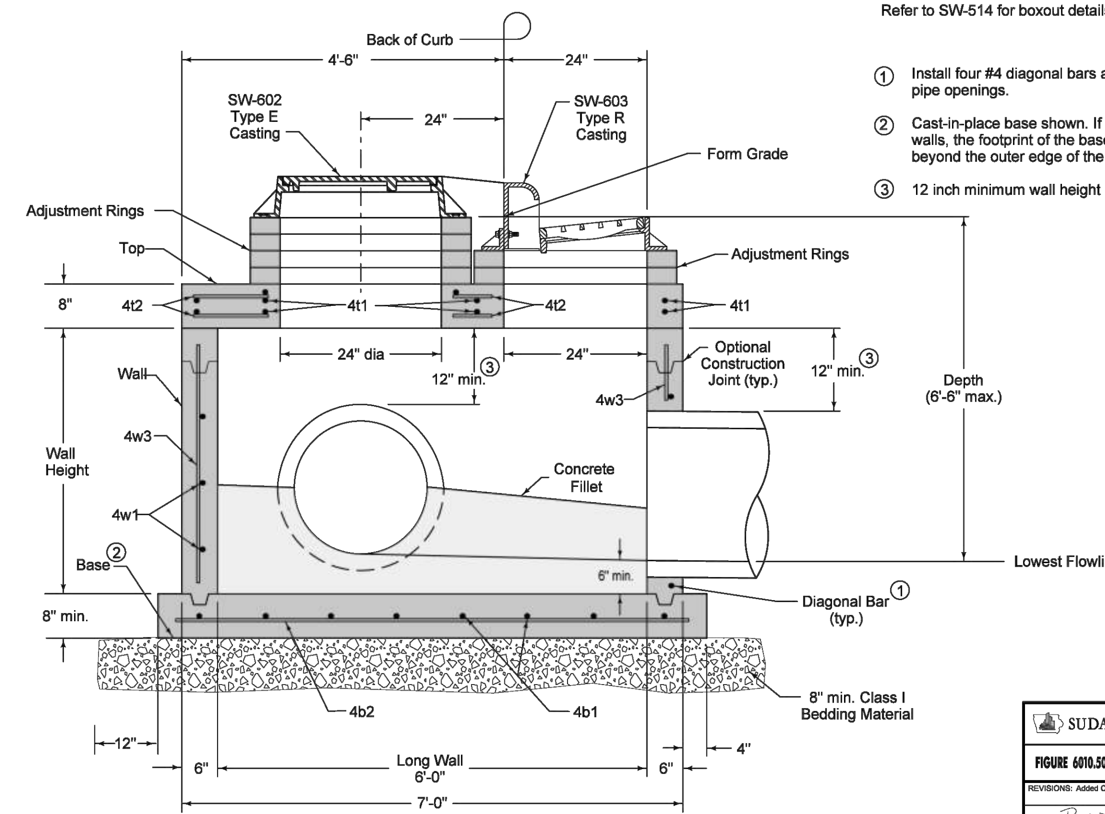
SUDAS DIRECTOR / DESIGN METHODS ENGINEER

CIRCULAR STORM SEWER MANHOLE

FIGURE 6010.401 SHEET 1 OF 1

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.



TYPICAL SECTION

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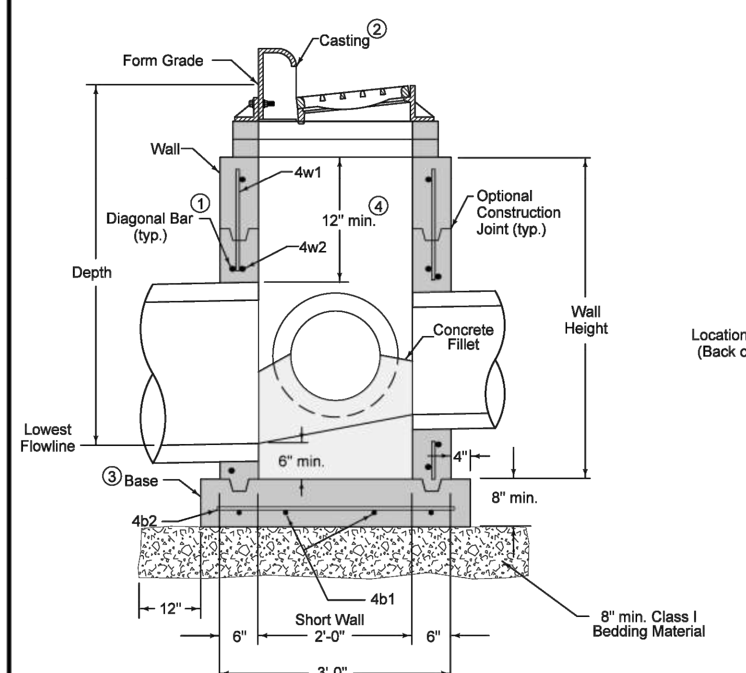
FIGURE 6010.503 | STANDARD ROAD PLAN | SW-503 | SHEET 1 of 2

REVISIONS: Added Class I Bedding Material.

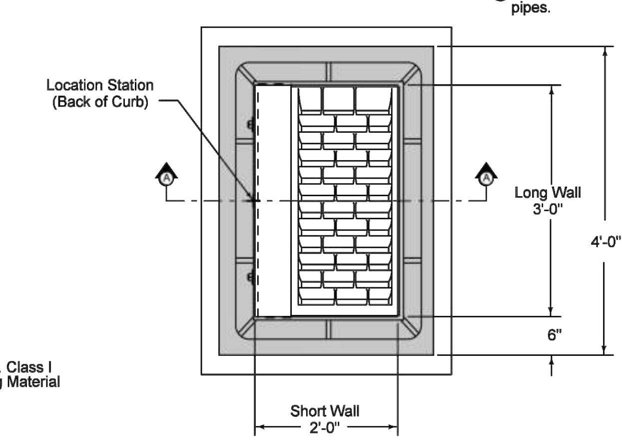
SUDAS DIRECTOR / DESIGN METHODS ENGINEER

SINGLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.503 SHEET 1 OF 2



SECTION A-A



PLAN

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at all pipe openings.
2. SW-603 Type R unless Type Q is specified in the contract documents.
3. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
4. 12 inch minimum wall height above all pipes.

REINFORCING BAR LIST

Mark	Size	Location	Shape	Length	Count	Spacing
4w1	4	Walls	——	Wall Height minus 4"	14	12"
4w2	4	Long Walls	——	3'-8"	Varies	12"
4w3	4	Short Walls	——	2'-8"	Varies	12"
4b1	4	Base	——	4'-2"	4	10"
4b2	4	Base	——	3'-2"	5	10"

MAXIMUM PIPE DIAMETERS

Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS | IOWADOT | REVISION 3 | 04-21-20

FIGURE 6010.501 | STANDARD ROAD PLAN | SW-501 | SHEET 1 of 1

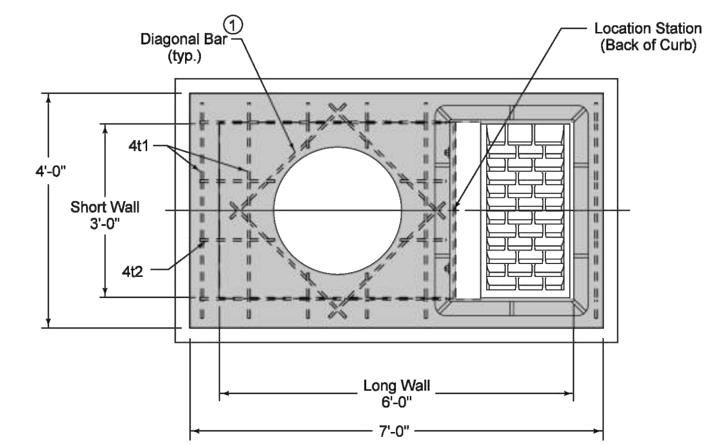
REVISIONS: Added Class I Bedding Material.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

SINGLE GRATE INTAKE

FIGURE 6010.501 SHEET 1 OF 1

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.



PLAN

REINFORCING BAR LIST

Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	——	12	3'-8"	12"
4t2	4	Top	——	8	4'-2"	12"
4b1	4	Base	——	7	4'-2"	13"
4b2	4	Base	——	5	7'-2"	10"
4w1	4	Short Walls	——	Varies	3'-8"	12"
4w2	4	Long Walls	——	Varies	6'-8"	12"
4w3	4	Walls	——	18	Wall Height minus 4"	13"

MAXIMUM PIPE DIAMETERS

Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

SUDAS | IOWADOT | REVISION 3 | 04-21-20

FIGURE 6010.503 | STANDARD ROAD PLAN | SW-503 | SHEET 2 of 2

REVISIONS: Added Class I Bedding Material.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

SINGLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.503 SHEET 2 OF 2

WINDSOR HEIGHTS the heart of it all

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www.bolton-menk.com

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REV | DESCRIPTION | DATE

CITY OF WINDSOR HEIGHTS, IOWA

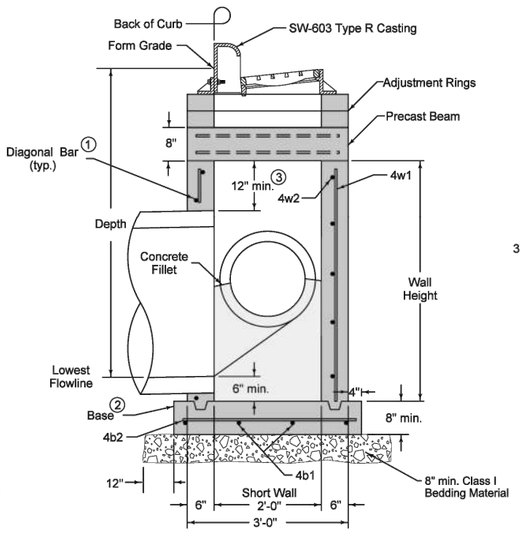
68TH STREET SOUTH RECONSTRUCTION

STORM SEWER DETAILS

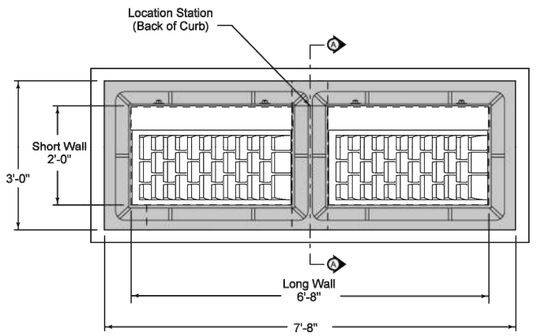
SHEET M1.03

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.



SECTION A-A



PLAN

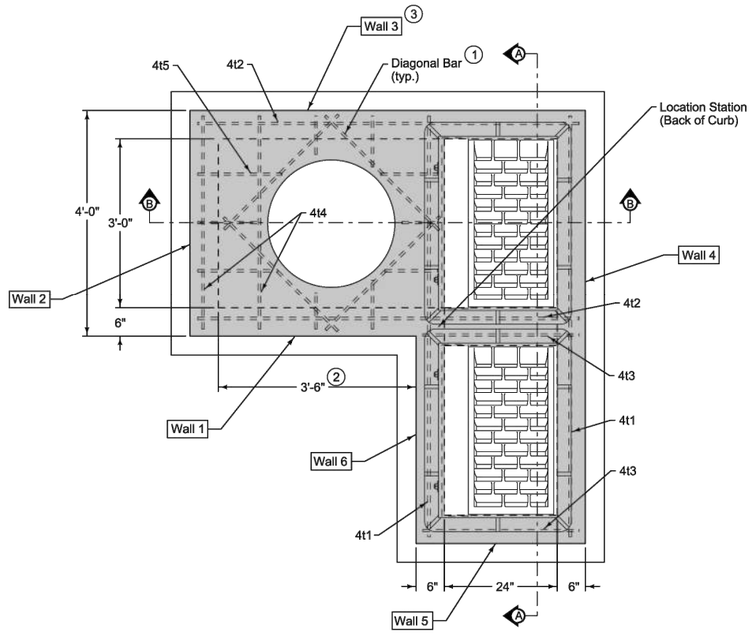
SUDAS	IOWA DOT	REVISION 3 04-21-20
FIGURE 6010.505	STANDARD ROAD PLAN	SW-505 SHEET 1 of 2

REVISIONS: Added Class I Bedding Material.

Paul D. Wigand, SUDAS DIRECTOR — Mark Nahra, DESIGN METHODS ENGINEER

DOUBLE GRATE INTAKE

FIGURE 6010.505 SHEET 1 OF 2



PLAN

Maximum pipe diameters are set based on maximum structure depth of 6 feet-6 inches and the objective of placement of the centerline of the pipe on the centerline of the manhole opening for maintenance purposes.

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.
2. If Wall 1 is widened to 4 feet, the maximum pipe diameter can be increased to 36 inches.
3. If Wall 1 is widened to 4 feet, the maximum pipe diameter in Wall 3 can be increased to 42 inches.

MAXIMUM PIPE DIAMETERS	
Wall	Max. Dia.
1	30" (2)
2	24"
3	36" (3)
4	42"

SUDAS	IOWA DOT	REVISION 4 04-21-20
FIGURE 6010.506	STANDARD ROAD PLAN	SW-506 SHEET 1 of 2

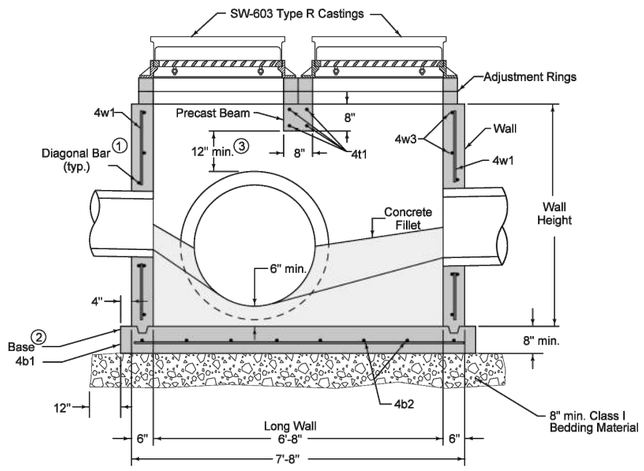
REVISIONS: Added Class I Bedding Material.

Paul D. Wigand, SUDAS DIRECTOR — Mark Nahra, DESIGN METHODS ENGINEER

DOUBLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.506 SHEET 1 OF 2

1. Install four #4 diagonal bars at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.



TYPICAL SECTION

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Beam	——	4	2'-8"	4"
4b1	4	Base	——	4	7'-10"	10"
4b2	4	Base	——	8	3'-2"	12"
4w1	4	Walls	——	20	Wall Height minus 4"	12"
4w2	4	Long Walls	——	Varies	7'-4"	12"
4w3	4	Short Walls	——	Varies	2'-8"	12"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	60"	66"

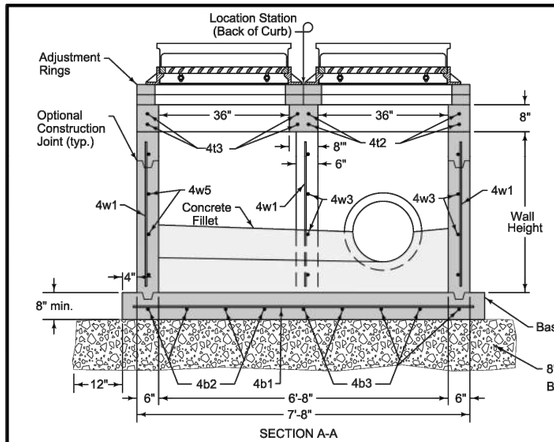
SUDAS	IOWA DOT	REVISION 3 04-21-20
FIGURE 6010.505	STANDARD ROAD PLAN	SW-505 SHEET 2 of 2

REVISIONS: Added Class I Bedding Material.

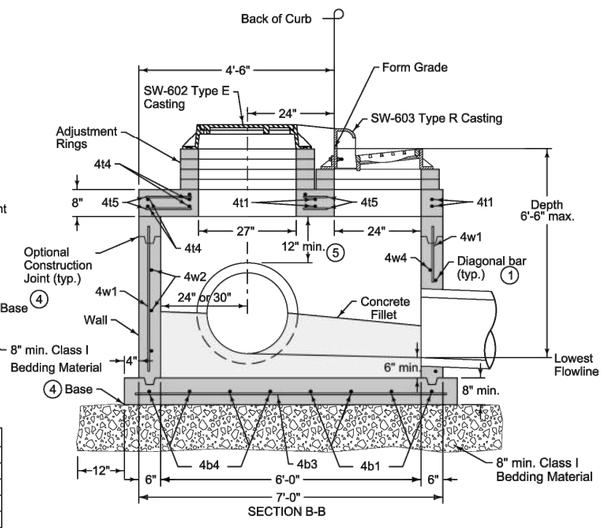
Paul D. Wigand, SUDAS DIRECTOR — Mark Nahra, DESIGN METHODS ENGINEER

DOUBLE GRATE INTAKE

FIGURE 6010.505 SHEET 2 OF 2



SECTION A-A



SECTION B-B

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	——	4	7'-4"	See Detail
4t2	4	Top	——	4	6'-8"	See Detail
4t3	4	Top	——	4	2'-8"	See Detail
4t4	4	Top	——	8	3'-8"	12"
4t5	4	Top	——	6	4'-2"	12"
4b1	4	Base	——	4	7'-10"	12"
4b2	4	Base	——	4	3'-2"	12"
4b3	4	Base	——	5	7'-2"	12"
4b4	4	Base	——	4	4'-2"	12"
4w1	4	Walls	——	29	Wall Height minus 4"	12"
4w2	4	Wall 2	——	Varies	3'-8"	12"
4w3	4	Walls 1 and 3	——	Varies	6'-8"	12"
4w4	4	Wall 4	——	Varies	7'-4"	12"
4w5	4	Wall 5	——	Varies	2'-8"	12"
4w6	4	Wall 6	——	Varies	3'-10"	12"

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.
4. Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
5. 12 inch minimum wall height above all pipes.

SUDAS	IOWA DOT	REVISION 4 04-21-20
FIGURE 6010.506	STANDARD ROAD PLAN	SW-506 SHEET 2 of 2

REVISIONS: Added Class I Bedding Material.

Paul D. Wigand, SUDAS DIRECTOR — Mark Nahra, DESIGN METHODS ENGINEER

DOUBLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.506 SHEET 2 OF 2

WINDSOR HEIGHTS
the heart of it all

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DESIGNED	REV	DESCRIPTION	DATE
FAM			
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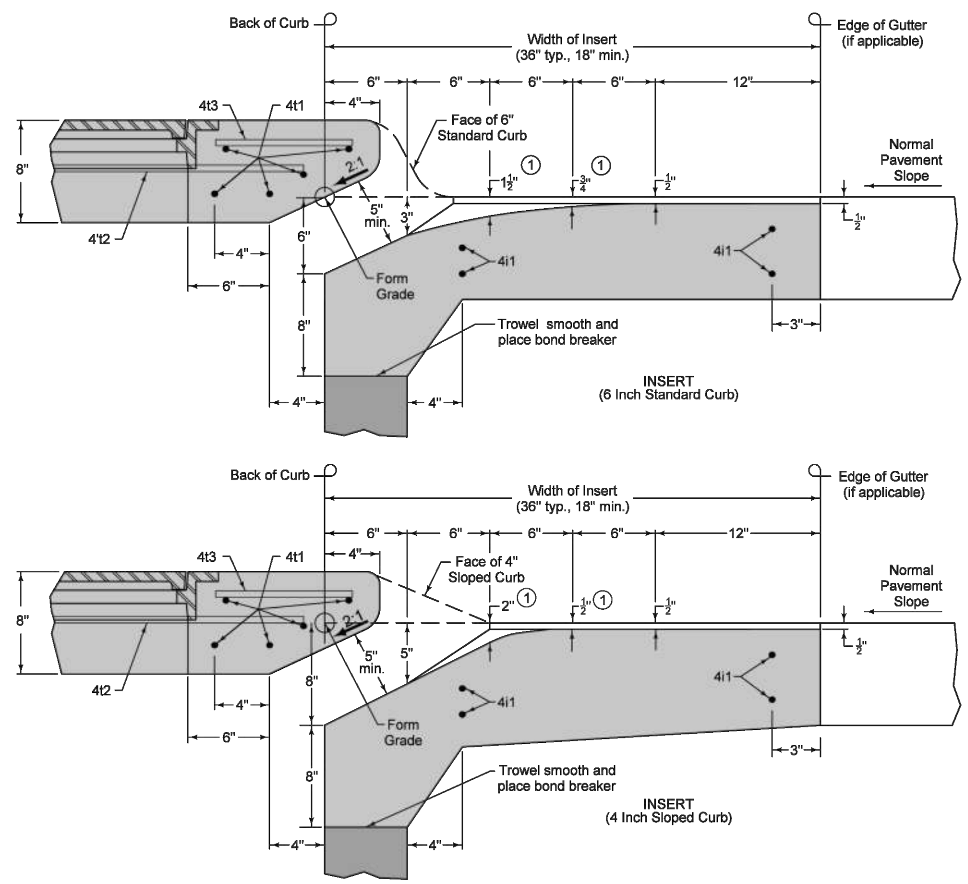
CHECKED			
JLE			
CLIENT PROJ. NO.			
0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER DETAILS

SHEET M1.04



① Insert shaping may be modified for insert widths less than 36 inches. For an 18 inch insert, reduce dimensions indicated by ½ inch.

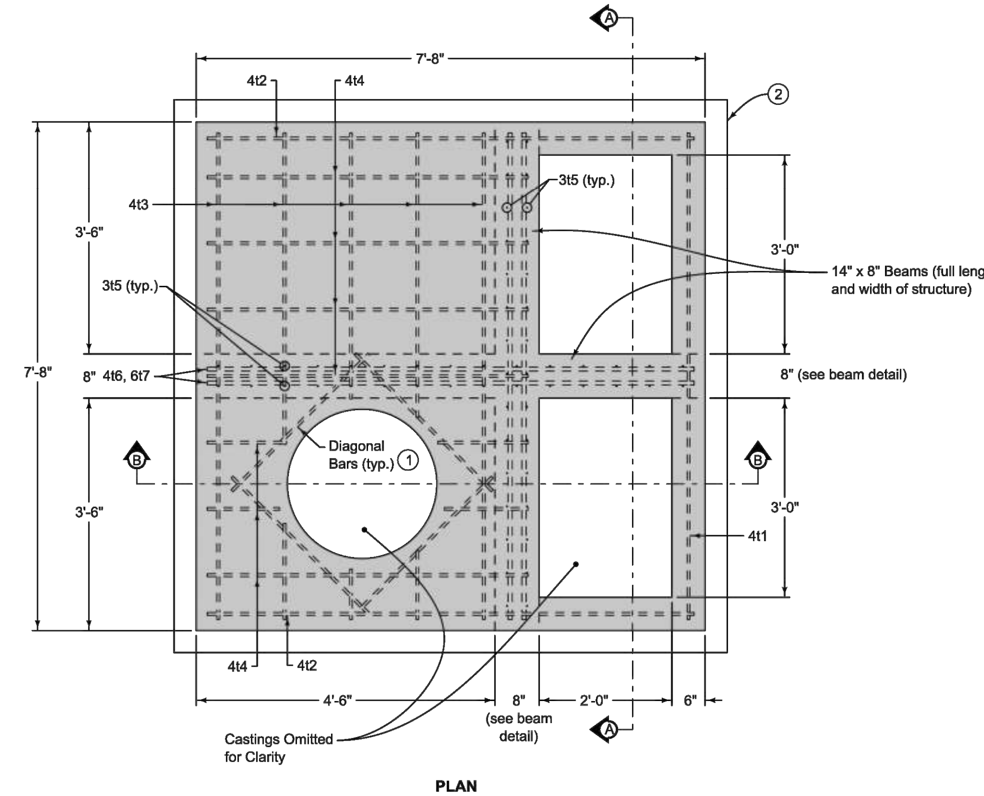
SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.507	STANDARD ROAD PLAN	SW-507 SHEET 1 of 2

REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX

FIGURE 6010.507 SHEET 1 OF 2



Maximum pipe diameters are set based on maximum structure depth of 6 feet-6 inches.

Refer to SW-514 for boxout details.

① Install four #4 diagonal bars at manhole opening and at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

MAXIMUM PIPE DIAMETERS	
Wall	Max. Dia.
Front/Back	36"
Sides	42"

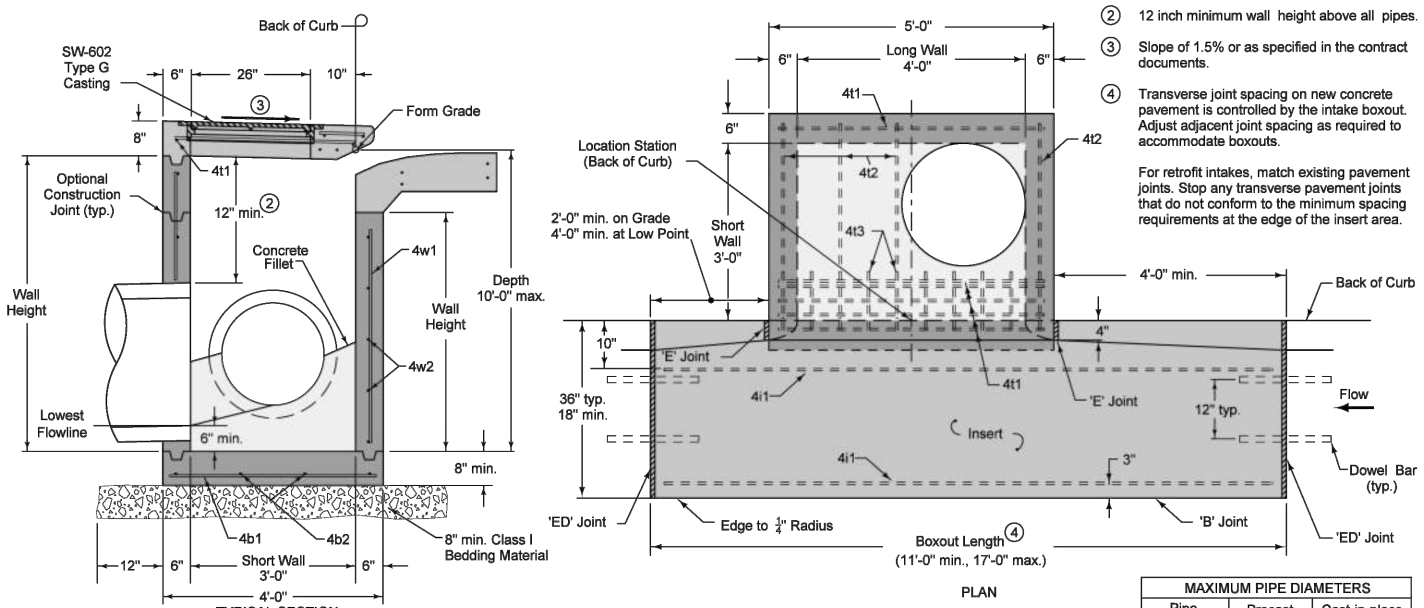
SUDAS	IOWADOT	REVISION New 4-16-24
FIGURE 6010.516	STANDARD ROAD PLAN	SW-516 SHEET 1 of 3

REVISIONS: New.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

LARGE WELL DOUBLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.516 SHEET 1 OF 3



② 12 inch minimum wall height above all pipes.

③ Slope of 1.5% or as specified in the contract documents.

④ Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjust adjacent joint spacing as required to accommodate boxouts.

For retrofit intakes, match existing pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the insert area.

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	——	6	4'-8"	See Insert
4t2	4	Top	——	4	3'-6"	12"
4t3	4	Top	——	10	10"	6"
4b1	4	Base	——	6	3'-6"	1 1"
4b2	4	Base	——	5	4'-6"	10"
4i1	4	Insert	——	4	Boxout Length minus 8"	See Plan
4w1	4	Walls	——	14	Wall Height minus 4"	14"
4w2	4	Long Walls	——	Varies	4'-8"	12"
4w3	4	Short Walls	——	Varies	3'-8"	12"

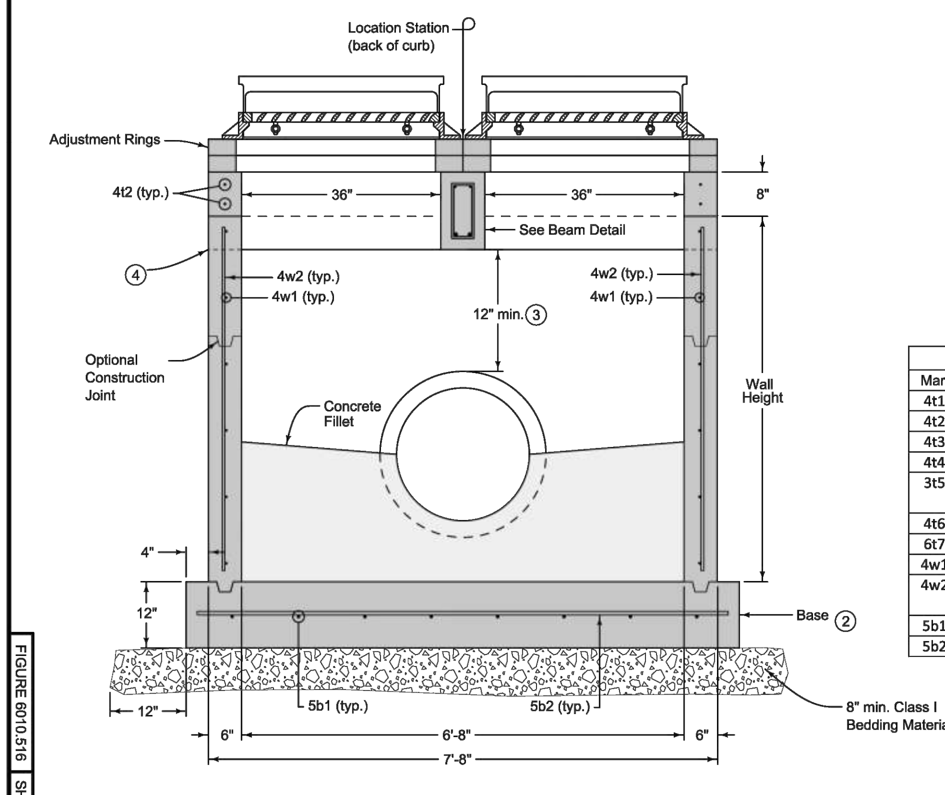
SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.507	STANDARD ROAD PLAN	SW-507 SHEET 2 of 2

REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX

FIGURE 6010.507 SHEET 2 OF 2



① Install four #4 diagonal bars at manhole opening and at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ 12 inch minimum wall height above all pipes.

④ Form pockets in the wall to receive integral beams in the top.

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	——	2	7'-4"	See Detail
4t2	4	Top	——	4	7'-4"	See Detail
4t3	4	Top	——	10	7'-4"	12"
4t4	4	Top	——	14	4'-2"	12"
3t5	3	Top	▯	30	3'-1"	6"
4t6	4	Top	——	4	7'-4"	See Detail
6t7	6	Top	——	4	7'-4"	See Detail
4w1	4	Walls	——	Varies	7'-4"	12"
4w2	4	Walls	——	32	Wall Height minus 4"	12"
5b1	5	Base	——	9	7'-10"	12"
5b2	5	Base	——	9	7'-10"	12"

SUDAS	IOWADOT	REVISION New 4-16-24
FIGURE 6010.516	STANDARD ROAD PLAN	SW-516 SHEET 2 of 3

REVISIONS: New.

SUDAS DIRECTOR / DESIGN METHODS ENGINEER

LARGE WELL DOUBLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.516 SHEET 2 OF 3

WINDSOR HEIGHTS the heart of it all

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Email: DesMoines@bolton-menk.com
www.bolton-menk.com

DESIGNED FAM | DRAWN PL | CHECKED JLE | CLIENT PROJ. NO. 0A1.133739

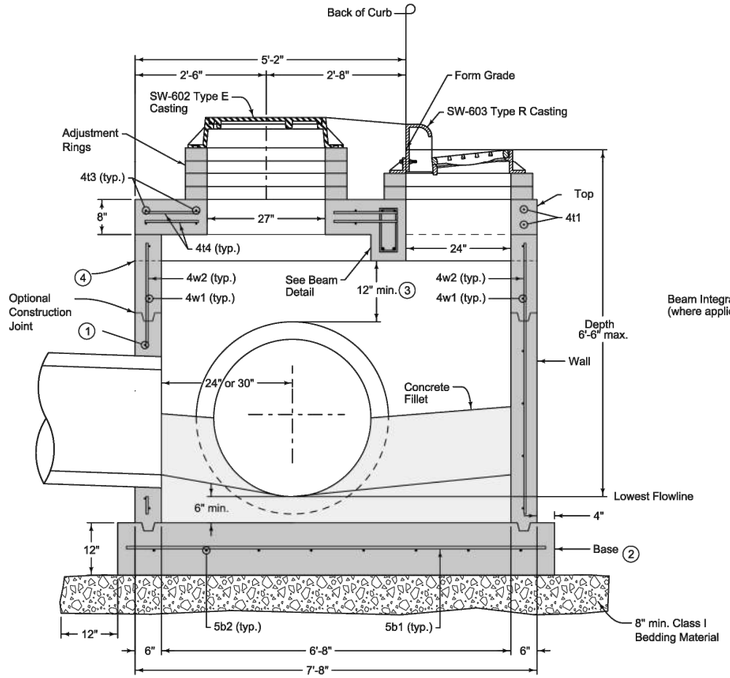
REV | DESCRIPTION | DATE

CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

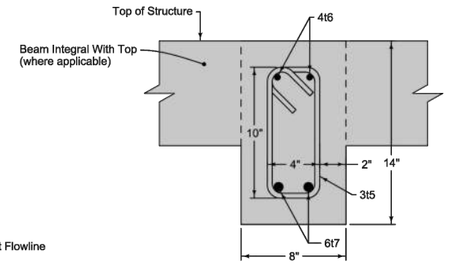
STORM SEWER DETAILS

SHEET M1.05



SECTION B-B

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.
4. Form pockets in the wall to receive integral beams in the top.



BEAM DETAIL

SUDAS	IOWA DOT	REVISION New 4-16-24
FIGURE 6010.516	STANDARD ROAD PLAN	SW-516 SHEET 3 of 3

REVISIONS: New.

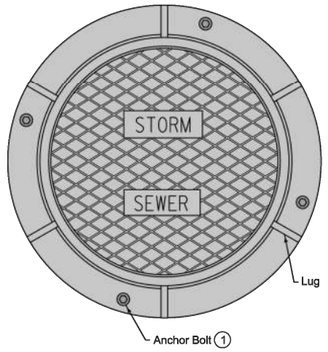
SUDAS DIRECTOR — DESIGN METHODS ENGINEER

LARGE WELL DOUBLE GRATE INTAKE WITH MANHOLE

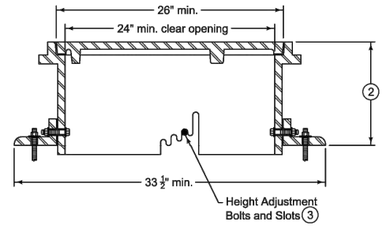
FIGURE 6010.516 | SHEET 3 OF 3

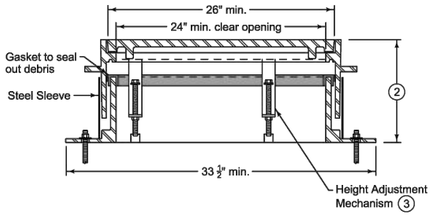
TYPE F: PCC

Three-piece floating casting for use in PCC paving and PCC boxouts



PLAN





TYPICAL SECTION 4

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary. Minimum one pickhole.

1. Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
2. Casting height varies. Minimum adjustment range of 4 inches.
3. Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.
4. Height adjustment method may vary; two options are shown.

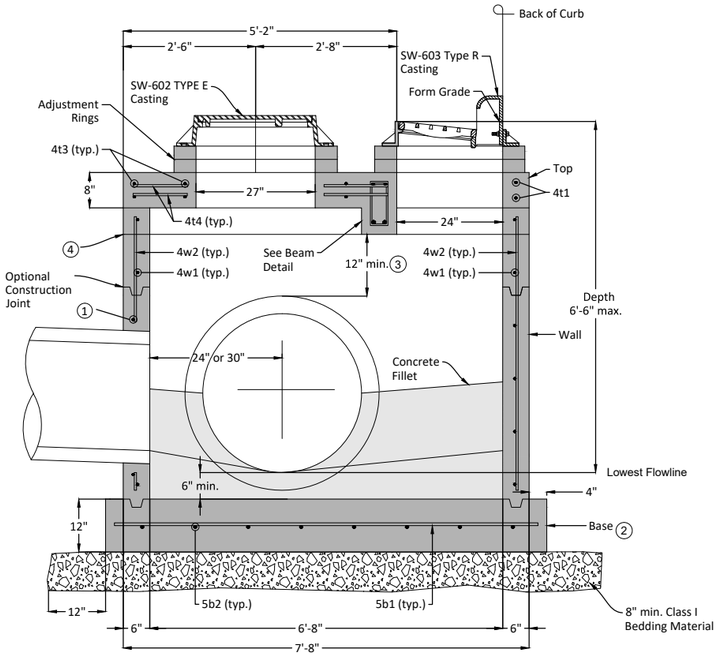
SUDAS	IOWA DOT	REVISION 4 04-21-20
FIGURE 6010.602	STANDARD ROAD PLAN	SW-602 SHEET 2 of 3

REVISIONS: Add option for 3-piece HMA casting

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

CASTINGS FOR STORM SEWER MANHOLES

FIGURE 6010.602 | SHEET 2 OF 3

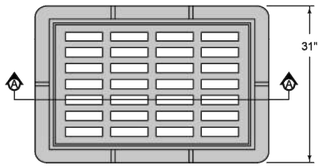


SECTION B-B

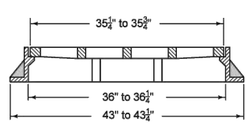
A / D.04 SW - 516 (INTAKE 17)
NTS

TYPE Q 1

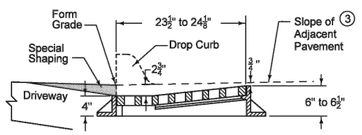
Driveway Grate
(Minimum open area 370 in²)



PLAN



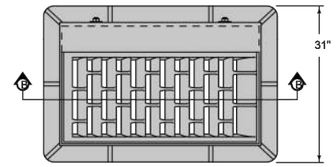
SECTION A-A



TYPICAL SECTION

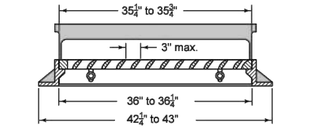
TYPE R 2

Curb Inlet Grate
(Minimum open area 180 in²)

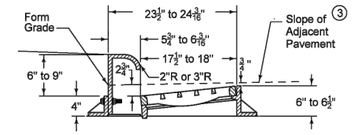


PLAN

Flow



SECTION B-B



TYPICAL SECTION

1. For use at curb drops for driveways. Use only when specified in the contract documents.
2. Provide bicycle-safe vane-style grate. At low points, grates with vanes facing both directions of flow are allowed.
3. For details of boxout pavement, refer to SW-514.

SUDAS	IOWA DOT	REVISION 6 10-16-18
FIGURE 6010.603	STANDARD ROAD PLAN	SW-603 SHEET 1 of 2

REVISIONS: Corrected typo on page two that said SHEET 1 of 2.

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

CASTINGS FOR GRATE INTAKES

FIGURE 6010.603 | SHEET 1 OF 2

WINDSOR HEIGHTS
The heart of it all

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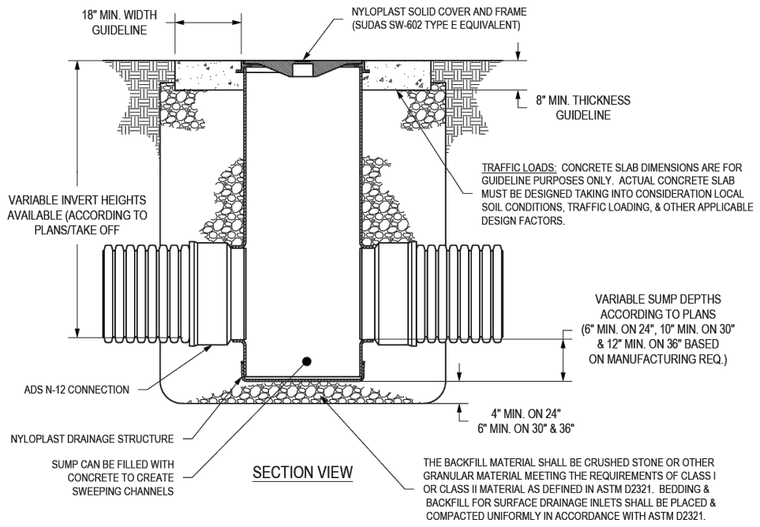
JLE			
CLIENT PROJ. NO.			
0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER DETAILS

SHEET M1.06

NYLOPLAST STRUCTURES EQUIVALENT TO SUDAS SW-401 & SW-402



SECTION VIEW

TOP VIEW
NYLOPLAST SOLID COVER AND FRAME

NYLOPLAST STRUCTURE SIZE (INCHES)	MAXIMUM PIPE DIAMTER (INCHES) FOR 2 PIPES	
	AT 180° SEPERATION	AT 90° SEPERATION
24	24	18
30	30	24
36	36	24
SEE NYLOPLAST DRAWING NO. 7001-110-012 FOR MORE INFORMATION		

NOTES:
1 - 24" & 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 24" & 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - 36" X 30" REDUCING TO SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
4 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
5 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
6 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
7 - 24" & 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
8 - SUMP CAN BE FILLED WITH CONCRETE AND MOLDED TO CREATE SWEEPING CHANNELS IF DESIRED.

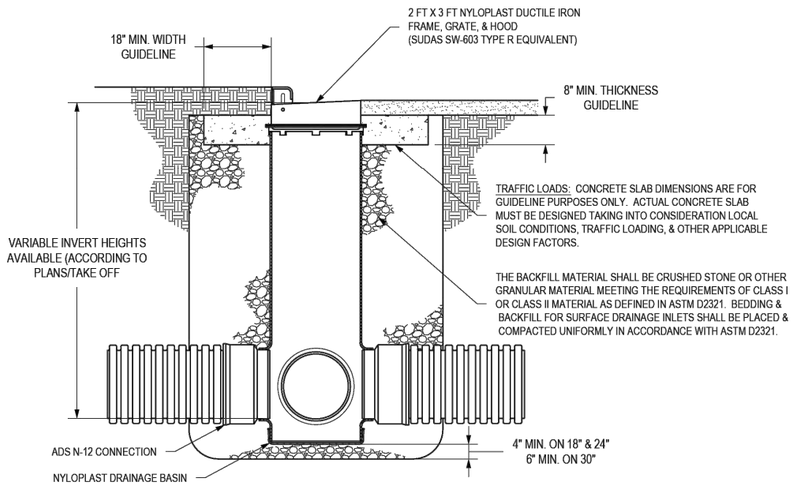
DRAWN BY	NMH	MATERIAL	
DATE	08-13-24		
APPD BY	NMH	PROJECT NO./NAME	
DATE	08-13-24		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

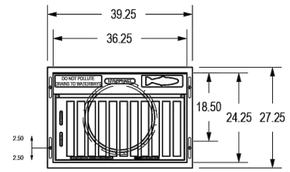
TITLE
NYLOPLAST 24"-36" DRAIN BASIN WITH SOLID COVER EQUIVALENT TO SUDAS SW-401 & SW-402

DWG NO. SW-401 & SW-402 REV A

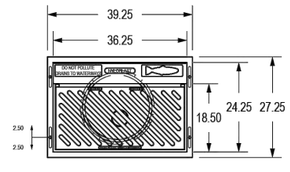
NYLOPLAST 2 FT X 3 FT ROLL CURB INLET STRUCTURE EQUIVALENT TO SUDAS SW-501 & SW-502



SECTION VIEW



TOP VIEW
CURB INLET HOOD, HIGH FLOW GRATE, AND FRAME



TOP VIEW
CURB INLET HOOD, DIAGONAL GRATE, AND FRAME

NYLOPLAST DRAIN BASIN SIZE (INCHES)	MAXIMUM PIPE DIAMTER (INCHES) FOR 2 PIPES	
	AT 180° SEPERATION	AT 90° SEPERATION
18	18	15
24	24	18
30	30	24
36	36	24
SEE NYLOPLAST DRAWING NO. 7001-110-012 FOR MORE INFORMATION		

1 - 18" - 30" FRAMES, GRATES, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 36" X 30" REDUCING PLATE SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - ALL ROLL CURB INLET GRATE OPTIONS SHALL MEET H-20 LOAD RATING

DRAWN BY	NMH	MATERIAL	
DATE	08-13-24		
APPD BY	NMH	PROJECT NO./NAME	
DATE	08-13-24		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
NYLOPLAST 2 FT X 3 FT ROLL CURB INLET STRUCTURE EQUIVALENT TO SUDAS SW-501 & SW-502

DWG NO. SW-501 & SW-502 REV A

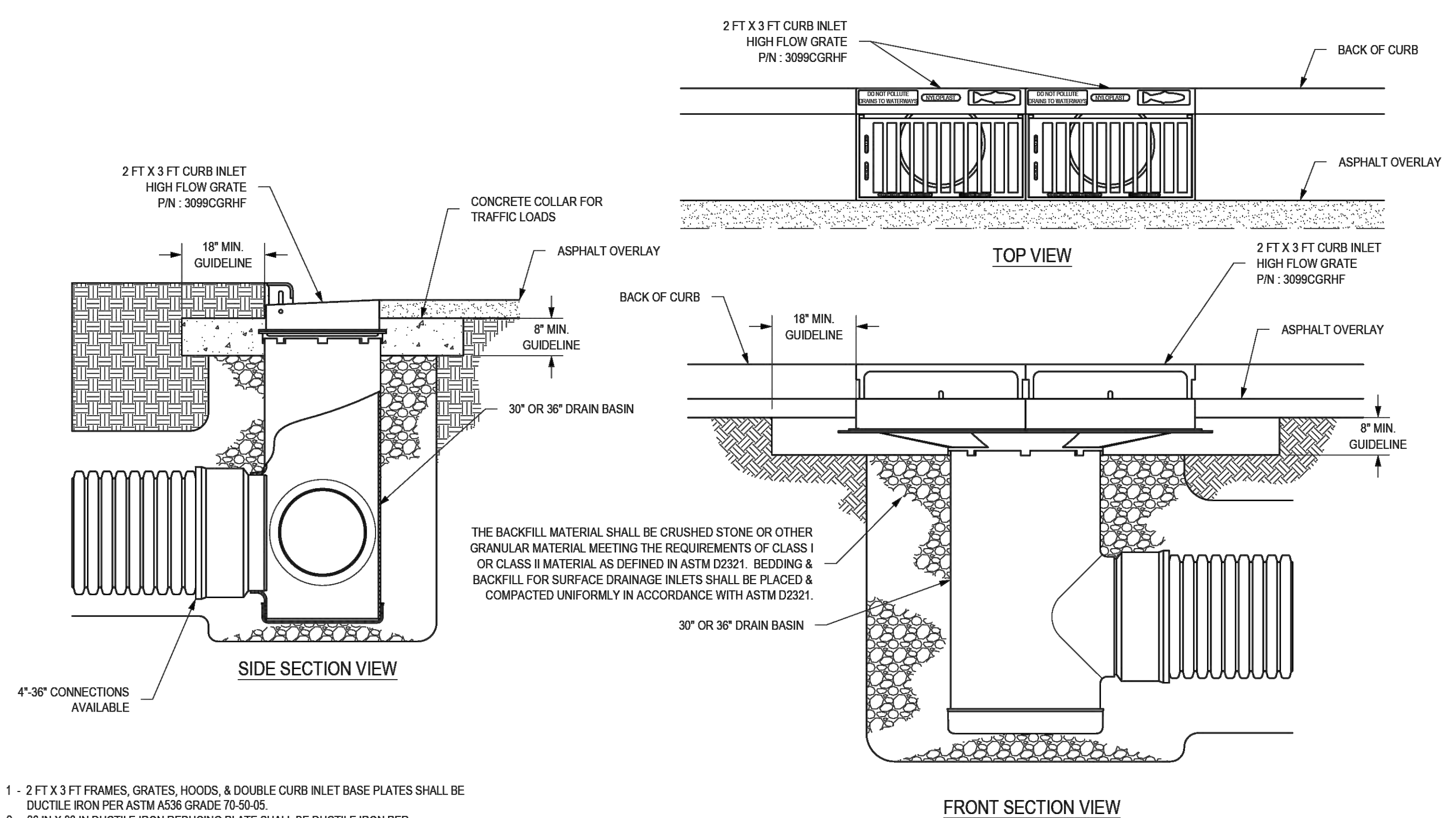
WINDSOR HEIGHTS
FROM HOMES AT IT'S BEST
BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

DESIGNED	FAM	REV	DESCRIPTION / DATE
DRAWN	PL		
CHECKED	JLE		
CLIENT PROJ. NO.	0A1.133739		

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER DETAILS

SHEET M1.07

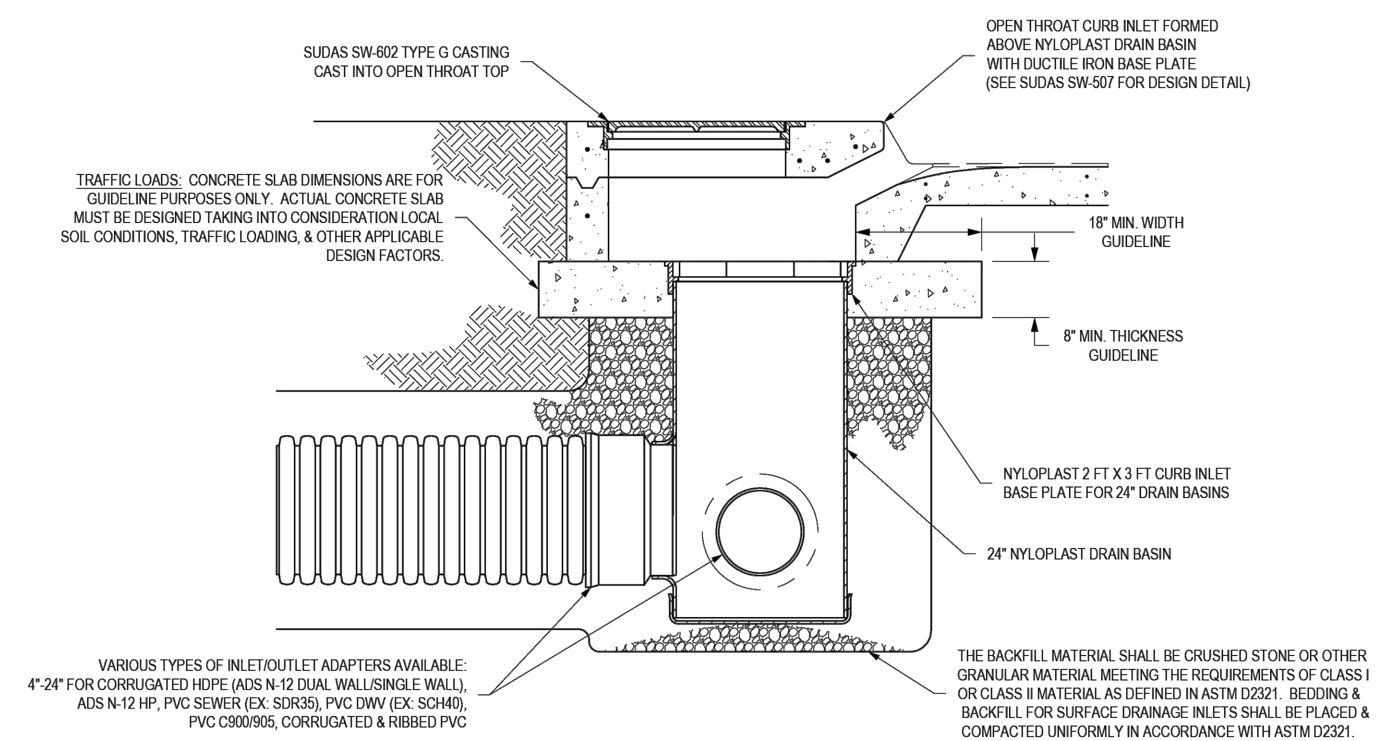
NYLOPLAST DOUBLE 2 FT X 3 FT CURB INLET STRUCTURE EQUIVALENT TO SUDAS SW-505



1 - 2 FT X 3 FT FRAMES, GRATES, HOODS, & DOUBLE CURB INLET BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 36 IN X 30 IN DUCTILE IRON REDUCING PLATE SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - ALL CURB INLET GRATE OPTIONS (DIAGONAL & HIGH FLOW) SHALL MEET H-20 LOAD RATING
6 - TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

DRAWN BY NMH	MATERIAL		ADS Nyloplast — 3130 VERONA AVE, BUFORD, GA 30518, PHN (770) 932-2443, FAX (770) 932-2490, www.nyloplast-us.com
DATE 08-13-24			
APPD BY NMH	PROJECT NO./NAME		TITLE: DOUBLE 2 FT X 3 FT CURB INLET STRUCTURE EQUIVALENT TO SUDAS SW-505
DATE 08-13-24			
DWG SIZE A	SCALE 1:30	SHEET 1 OF 1	DWG NO. SW-505 REV A

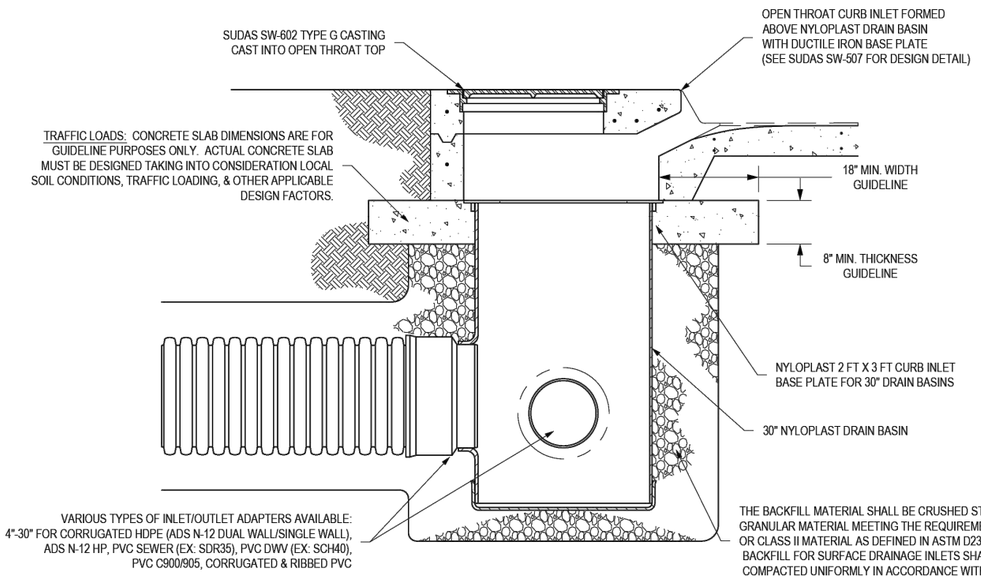
NYLOPLAST 24" DRAIN BASIN WITH BASE PLATE EQUIVALENT TO SUDAS SW-507



1 - 24" BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - SEE SUDAS SW-507 STANDARD SPECIFICATION FOR CONCRETE CURB CURB OPEN THROAT DETAILS.

DRAWN BY NMH	MATERIAL		ADS Nyloplast — 3130 VERONA AVE, BUFORD, GA 30518, PHN (770) 932-2443, FAX (770) 932-2490, www.nyloplast-us.com
DATE 08-13-24			
APPD BY NMH	PROJECT NO./NAME		TITLE: 24 IN DRAIN BASIN WITH 2 FT X 3 FT CURB INLET BASE PLATE EQUIVALENT TO SUDAS SW-507
DATE 08-13-24			
DWG SIZE A	SCALE 1:20	SHEET 1 OF 1	DWG NO. SW-507 / 24 IN BASIN REV A

NYLOPLAST 30" DRAIN BASIN WITH BASE PLATE EQUIVALENT TO SUDAS SW-507

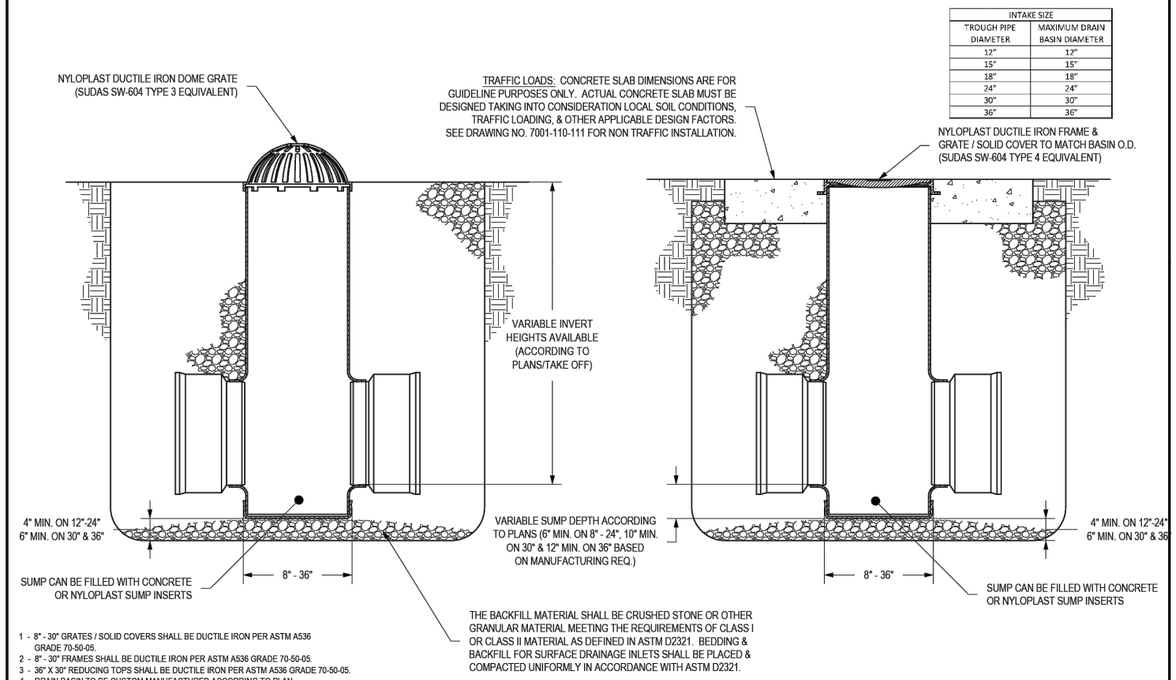


1 - 30" BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 30").
4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - SEE SUDAS SW-507 STANDARD SPECIFICATION FOR CONCRETE CURB CURB OPEN THROAT DETAILS.

DRAWN BY NMH	MATERIAL	ADS Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 08-13-24			
APPD BY NMH	PROJECT NO./NAME	TITLE 30 IN DRAIN BASIN WITH 2 FT X 3 FT CURB INLET BASE PLATE EQUIVALENT TO SUDAS SW-507	
DATE 08-13-24			
DWG SIZE A	SCALE 1:20 SHEET 1 OF 1	DWG NO. SW-507 / 30 IN BASIN	REV A

NYLOPLAST DRAINAGE STRUCTURES EQUIVALENT TO SUDAS SW-512

INTAKE SIZE	
TROUGH PIPE DIAMETER	MAXIMUM DRAIN BASIN DIAMETER
12"	12"
15"	15"
18"	18"
24"	24"
30"	30"
36"	36"



1 - 8" - 30" GRATES / SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - 36" X 30" REDUCING TOPS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
4 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
5 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
6 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
7 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
8 - 8" & 10" SOLID COVERS / GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

DRAWN BY NMH	MATERIAL	ADS Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 08-13-24			
APPD BY NMH	PROJECT NO./NAME	TITLE NYLOPLAST DRAINAGE STRUCTURE EQUIVALENT TO SW-512	
DATE 08-13-24			
DWG SIZE A	SCALE 1:20 SHEET 1 OF 1	DWG NO. SW-512	REV A

WINDSOR HEIGHTS

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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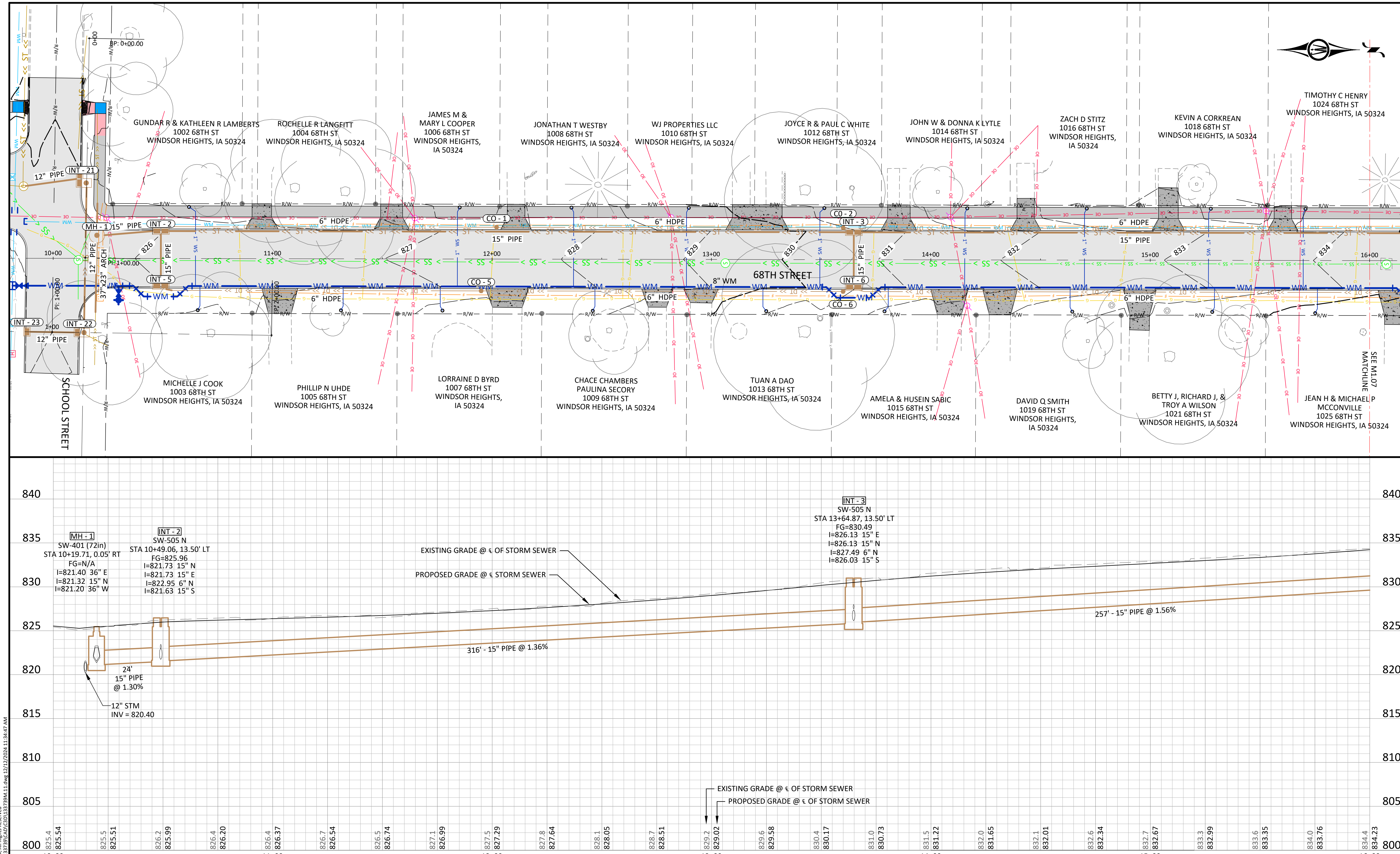
CLIENT PROJ. NO. OA1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER DETAILS

SHEET M1.09



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HORZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS the heart of it all

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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CHECKED	JLE
CLIENT PROJ. NO.	0A1.133739

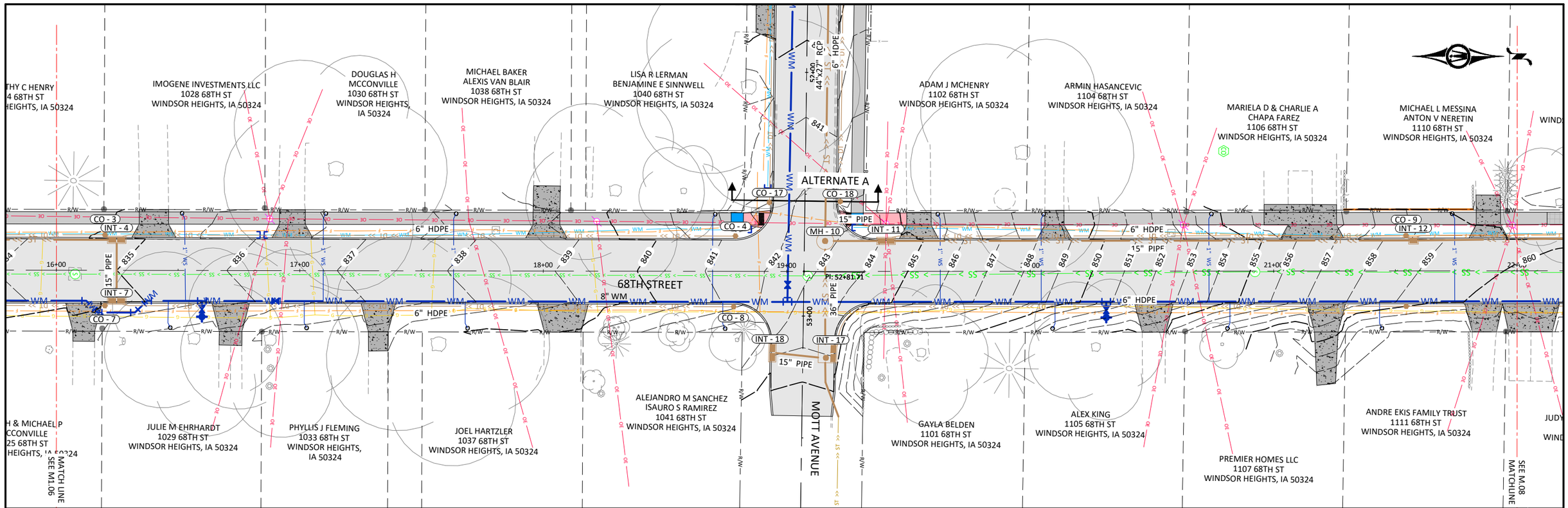
REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

STORM SEWER PLAN - 68TH STREET

SHEET M1.10



HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS
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BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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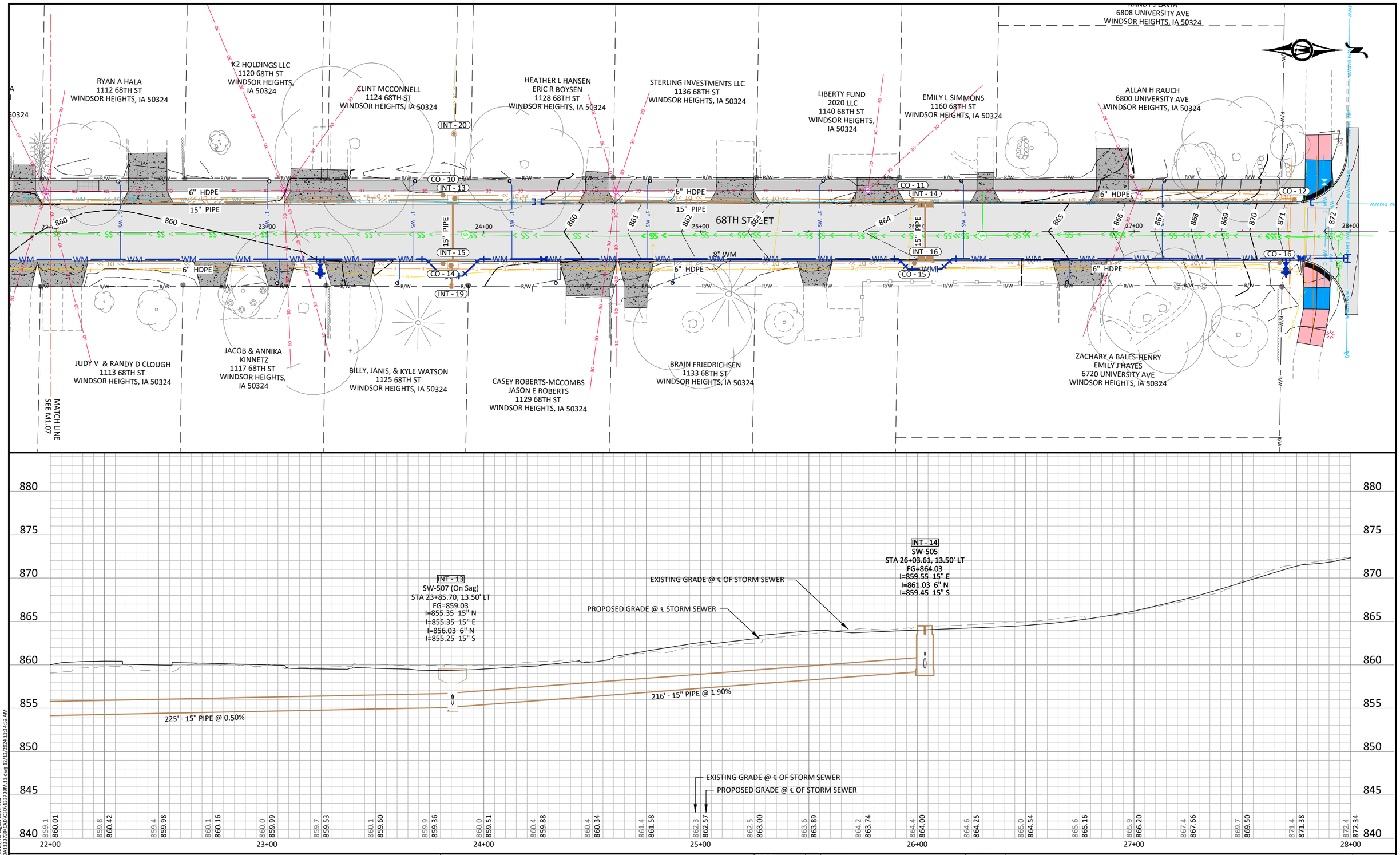
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER PLAN - 68TH STREET

SHEET
M1.11



HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS
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DES MOINES, IA 50309
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Email: DesMoines@bolton-menk.com
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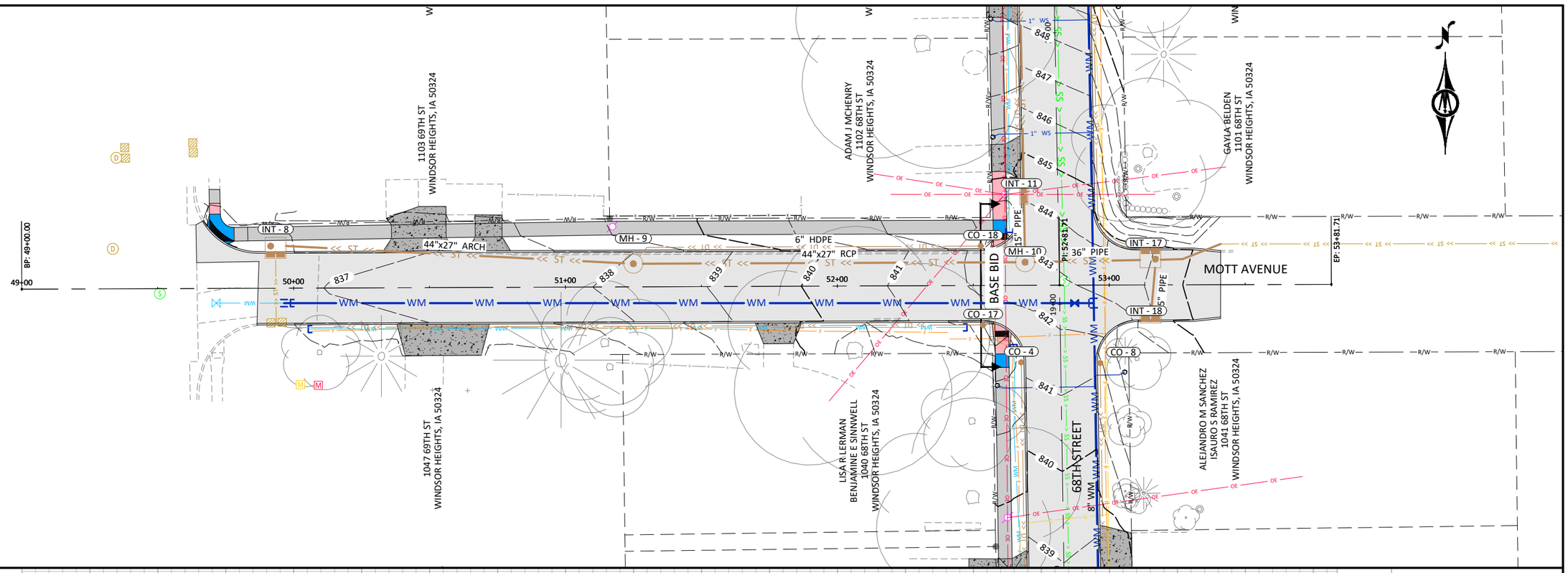
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER PLAN - 68TH STREET

SHEET M1.12



HORZ. 0 20 40 SCALE FEET
VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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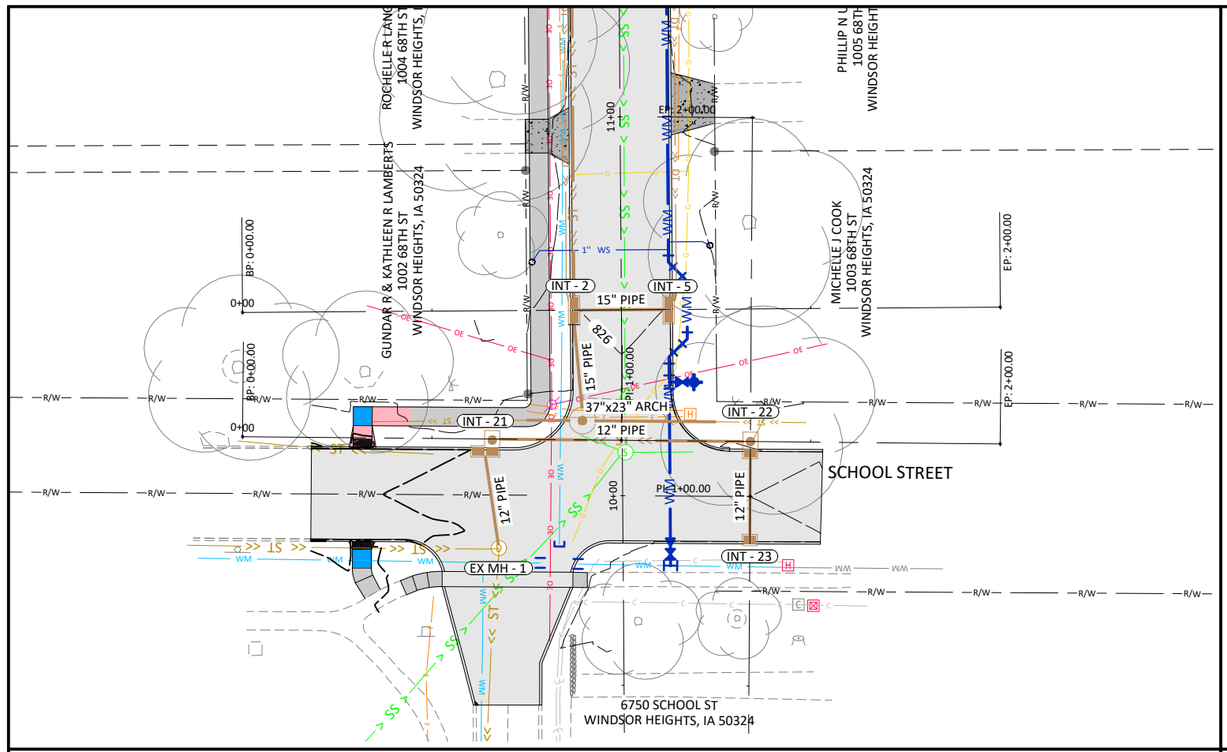
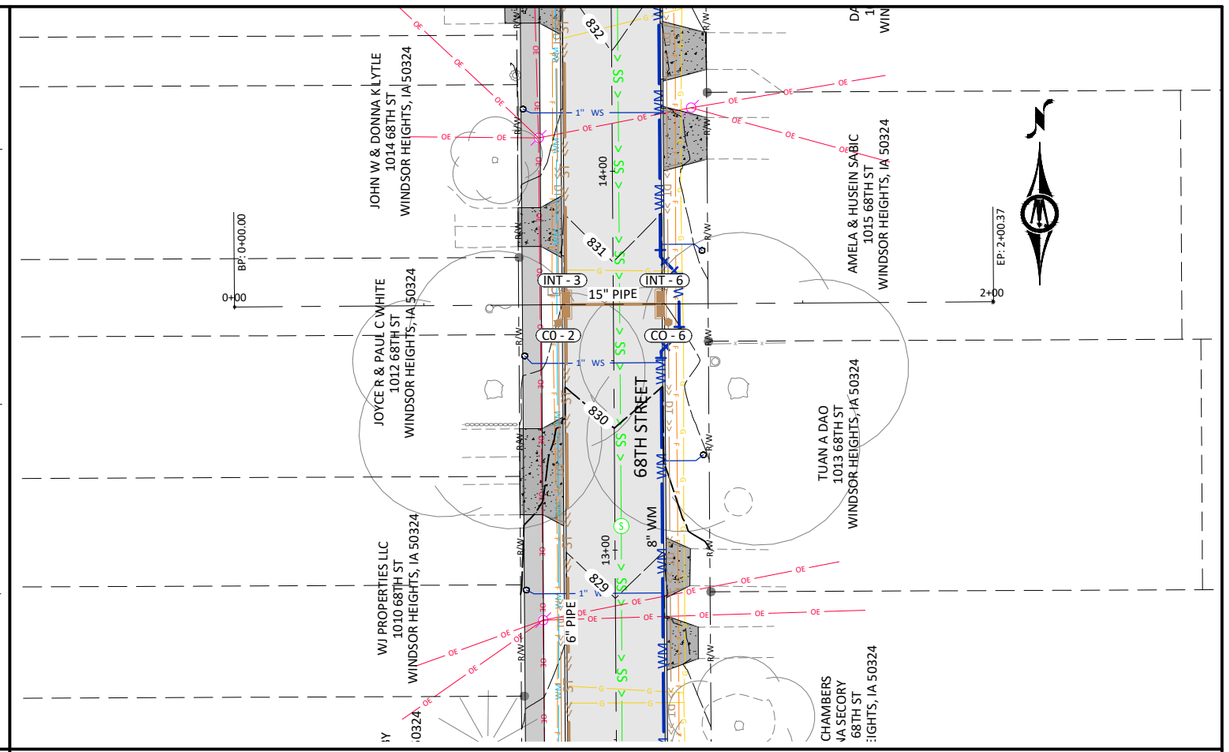
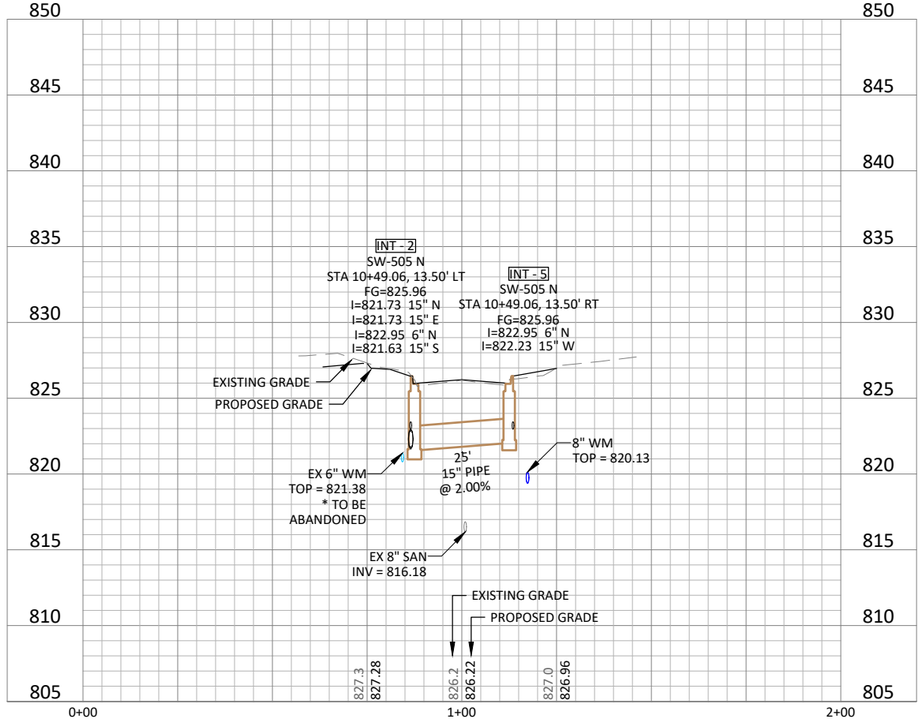
CHECKED			
JLE			
CLIENT PROJ. NO.			
0A1.133739			

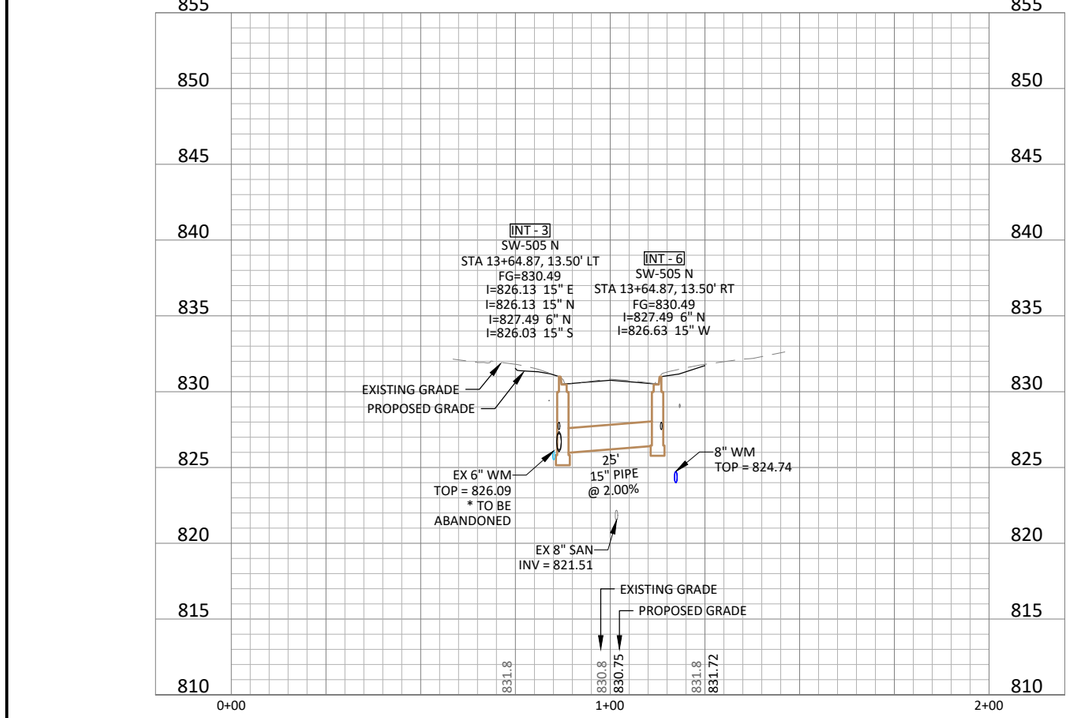
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER PLAN - MOTT AVENUE ALTERNATE A

SHEET M1.13









HORZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS
It has never sat it all

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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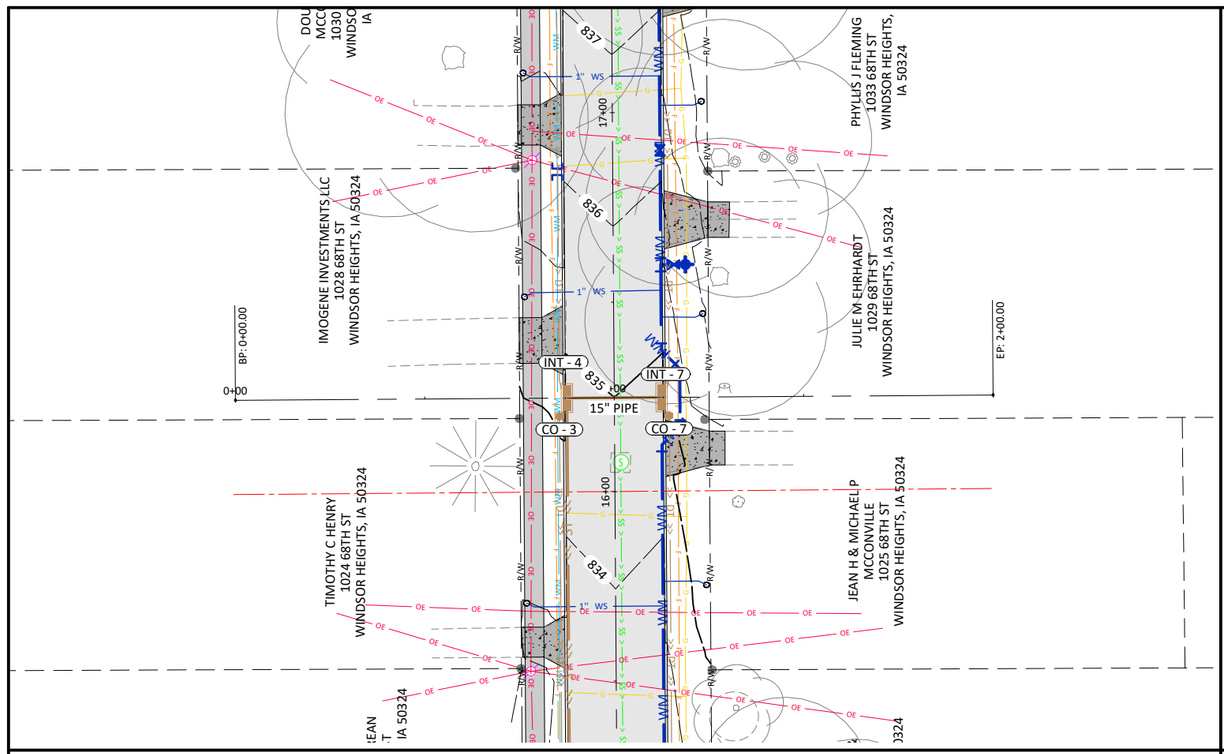
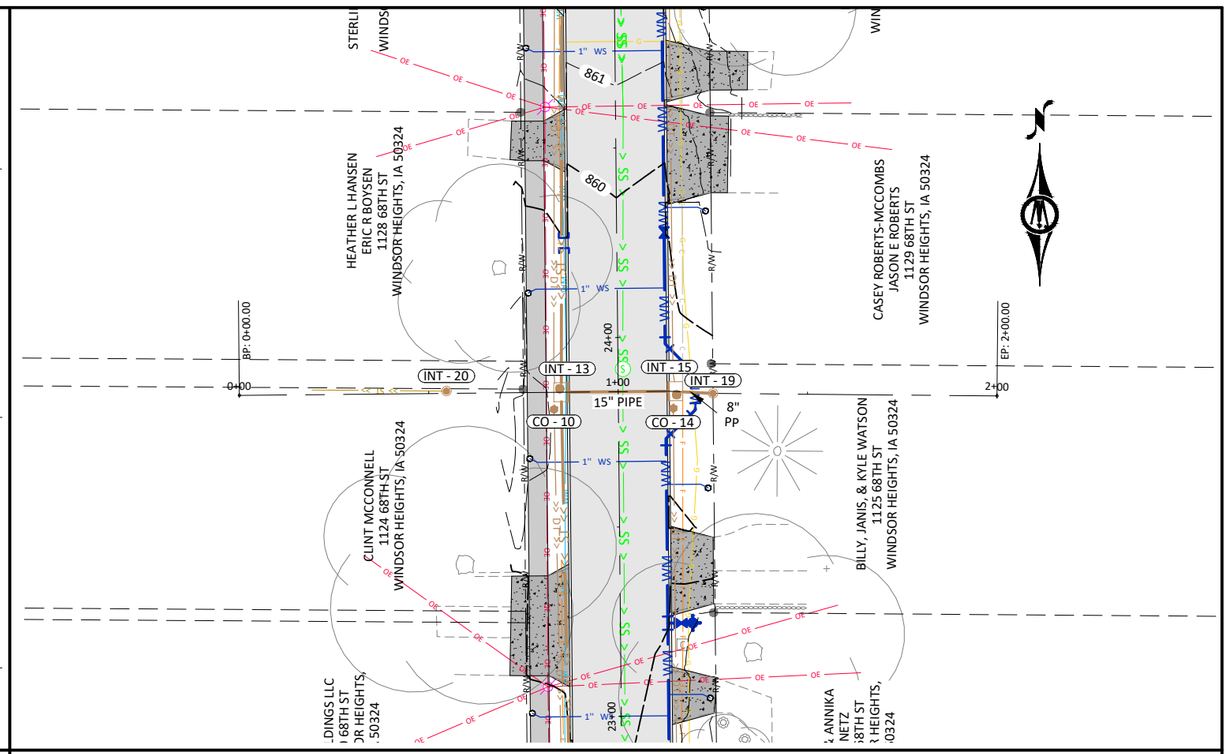
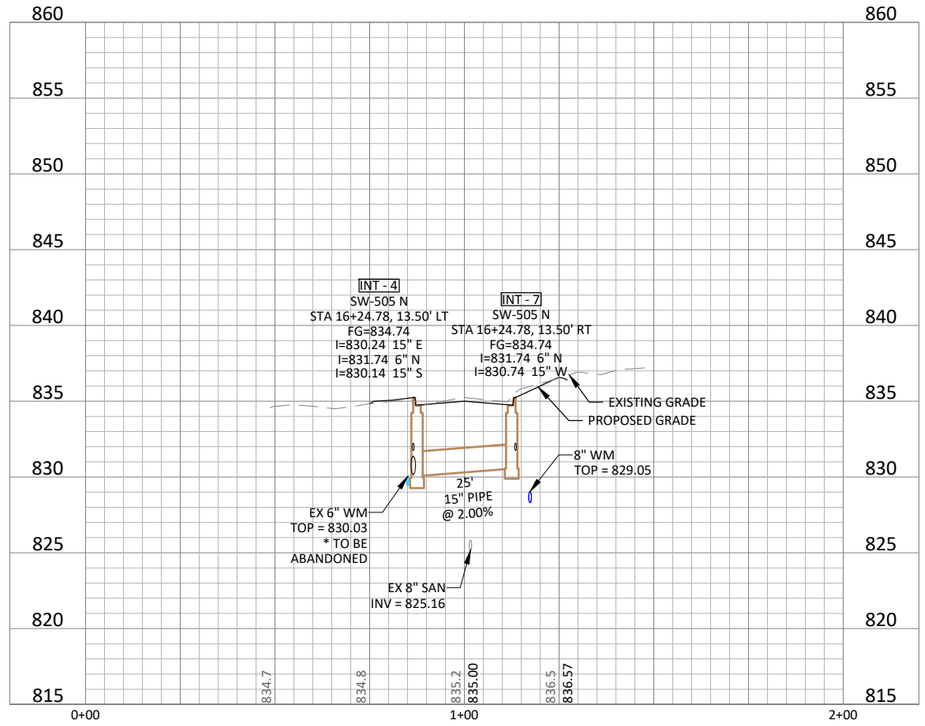
CLIENT PROJ. NO.			
0A1.133739			

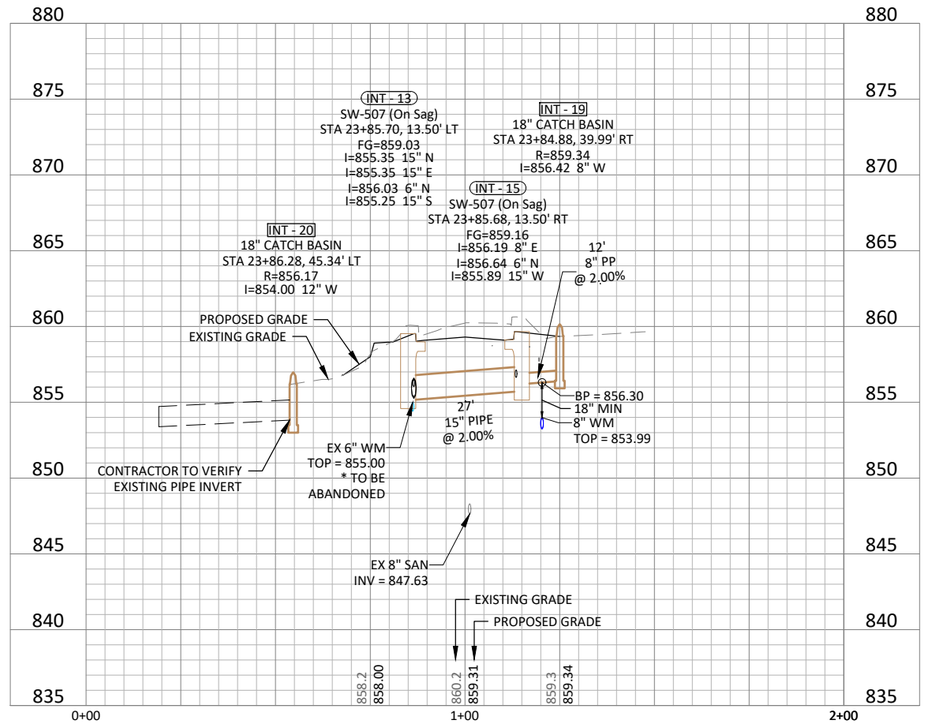
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER CROSS-RUNS

SHEET
M1.14









HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS
the heart of it all

BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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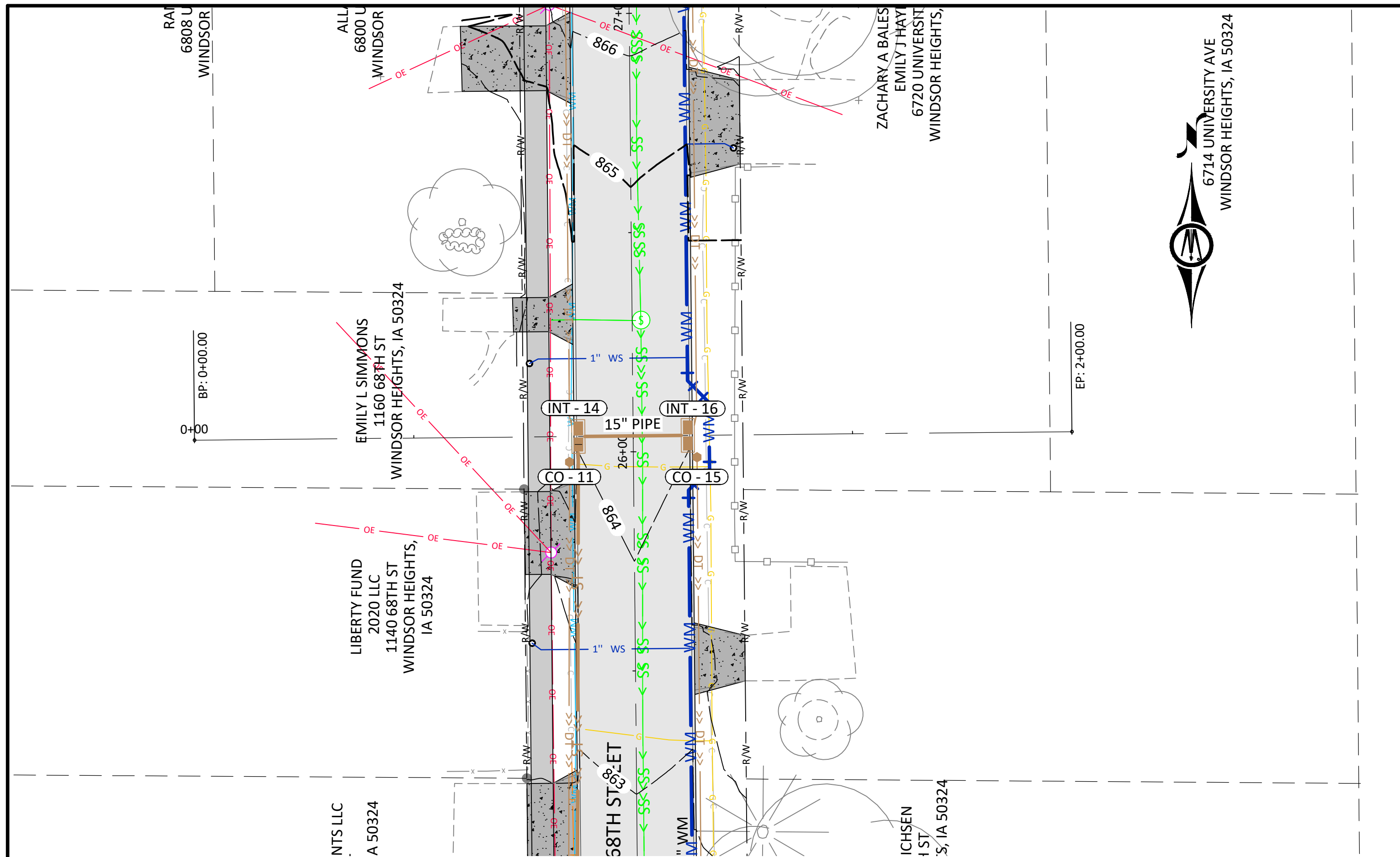
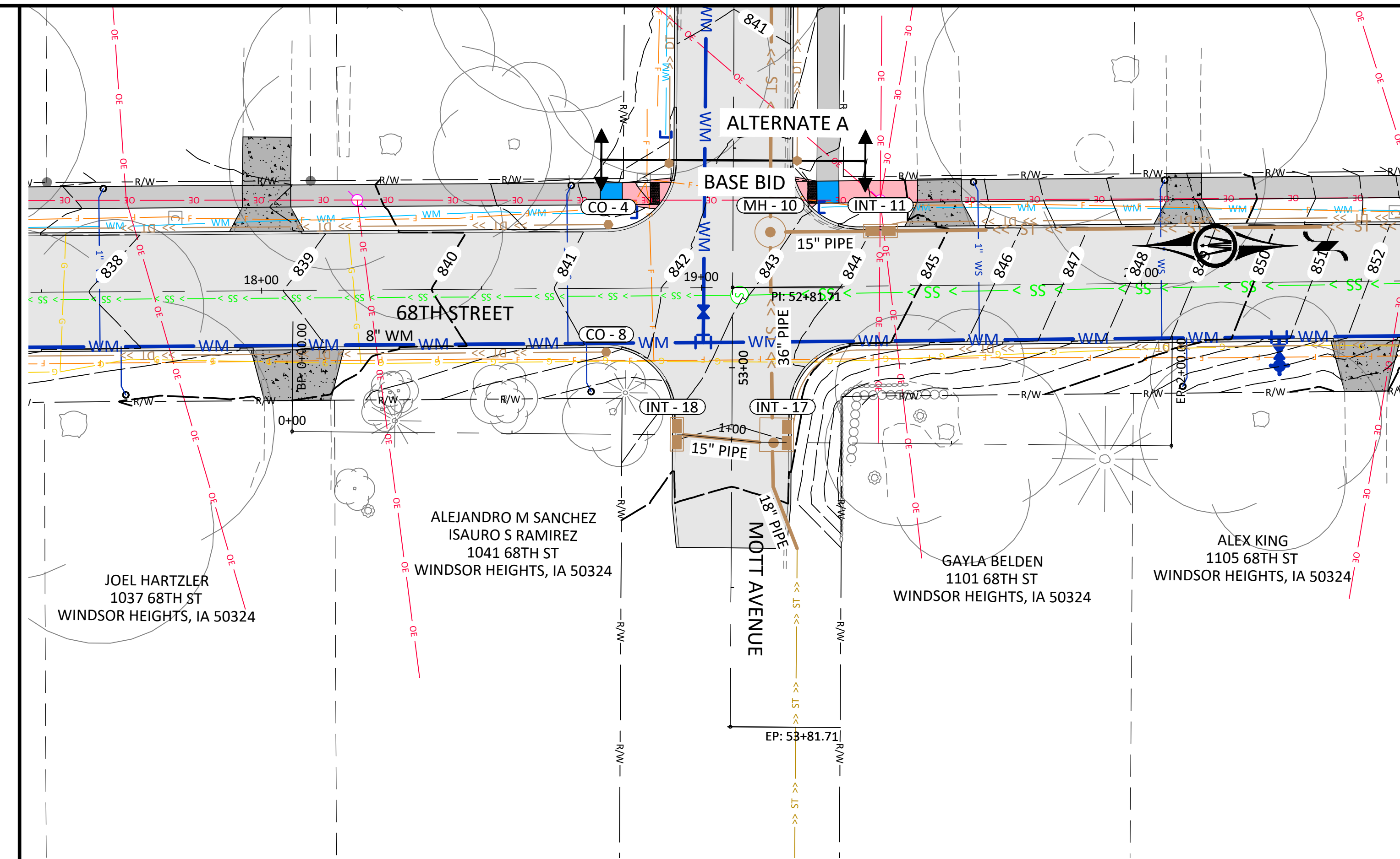
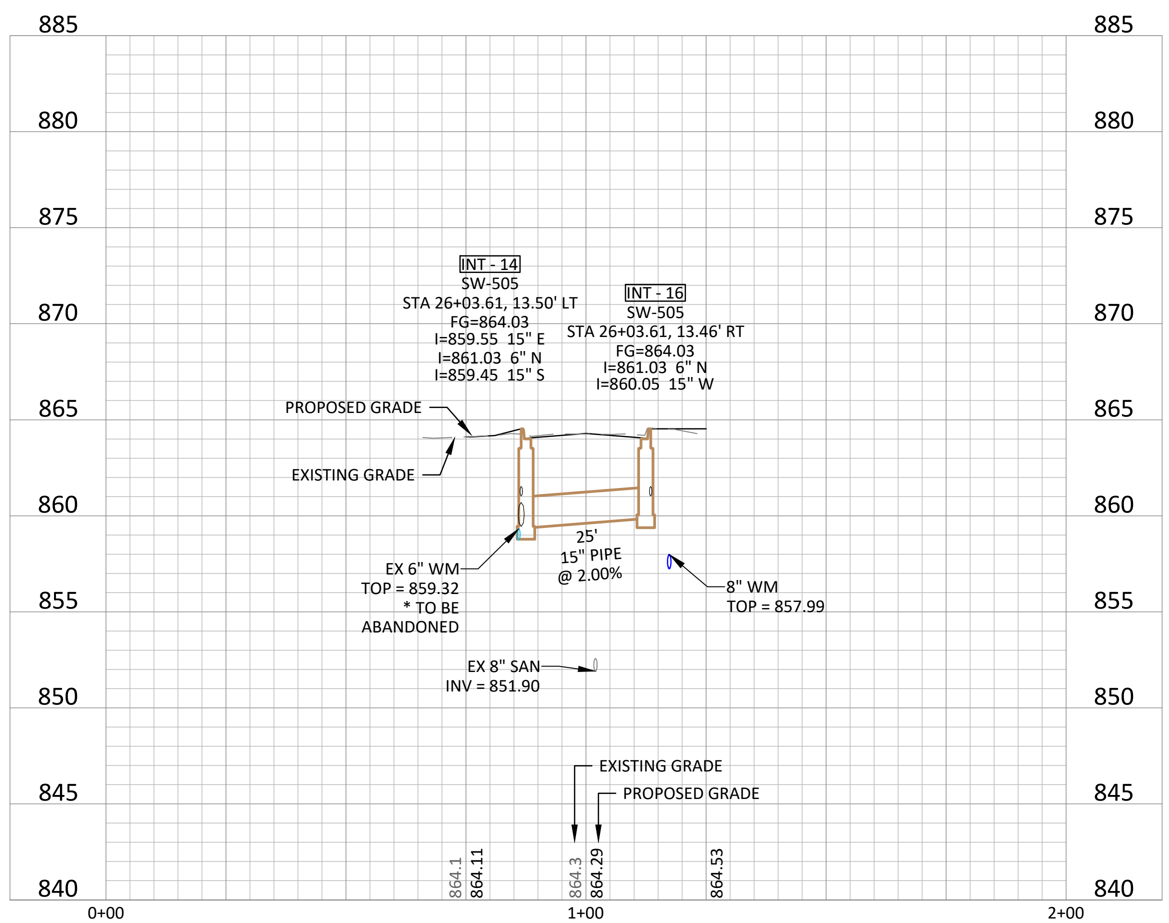
CLIENT PROJ. NO. 0A1.133739			

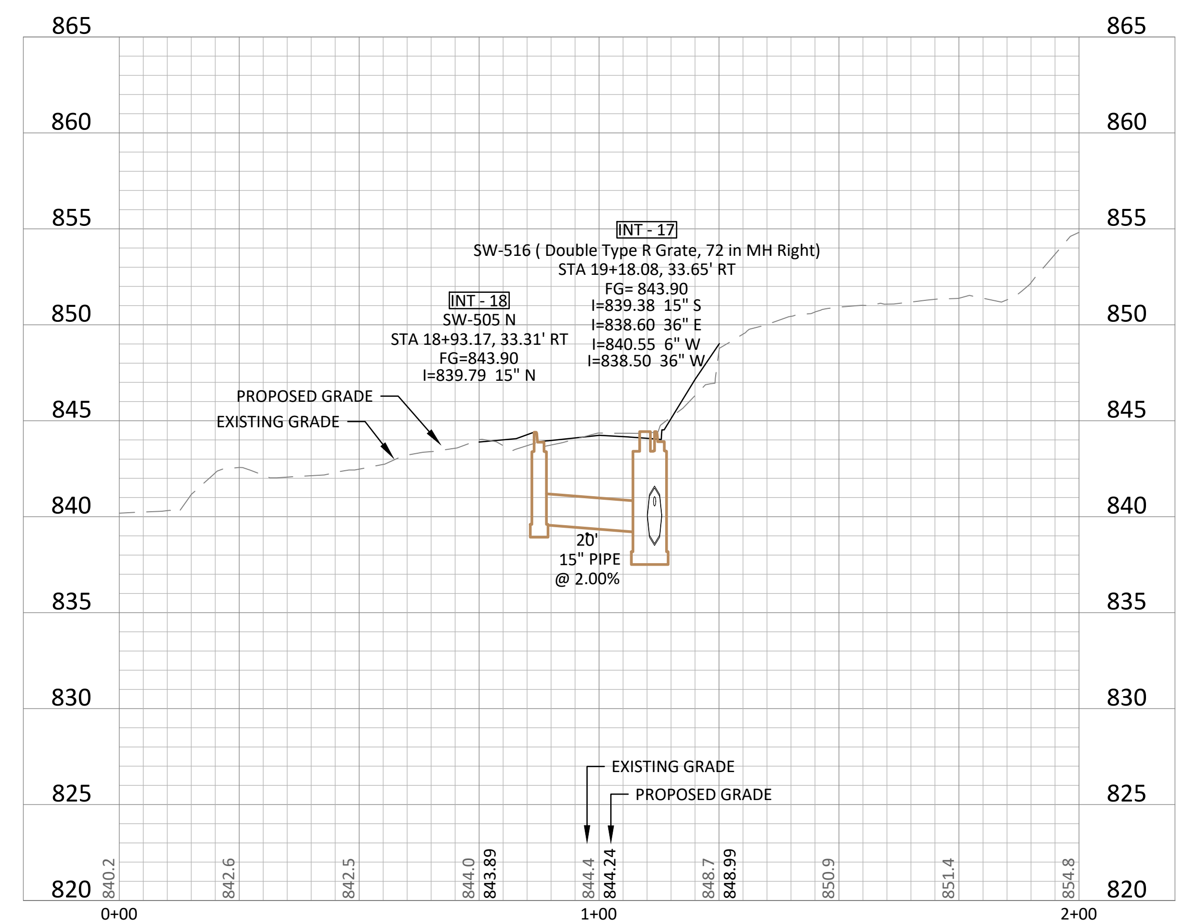
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER CROSS-RUNS

SHEET M1.15









HORZ. 0 20 40 SCALE FEET
VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS the heart of it all

BOLTON & MENK

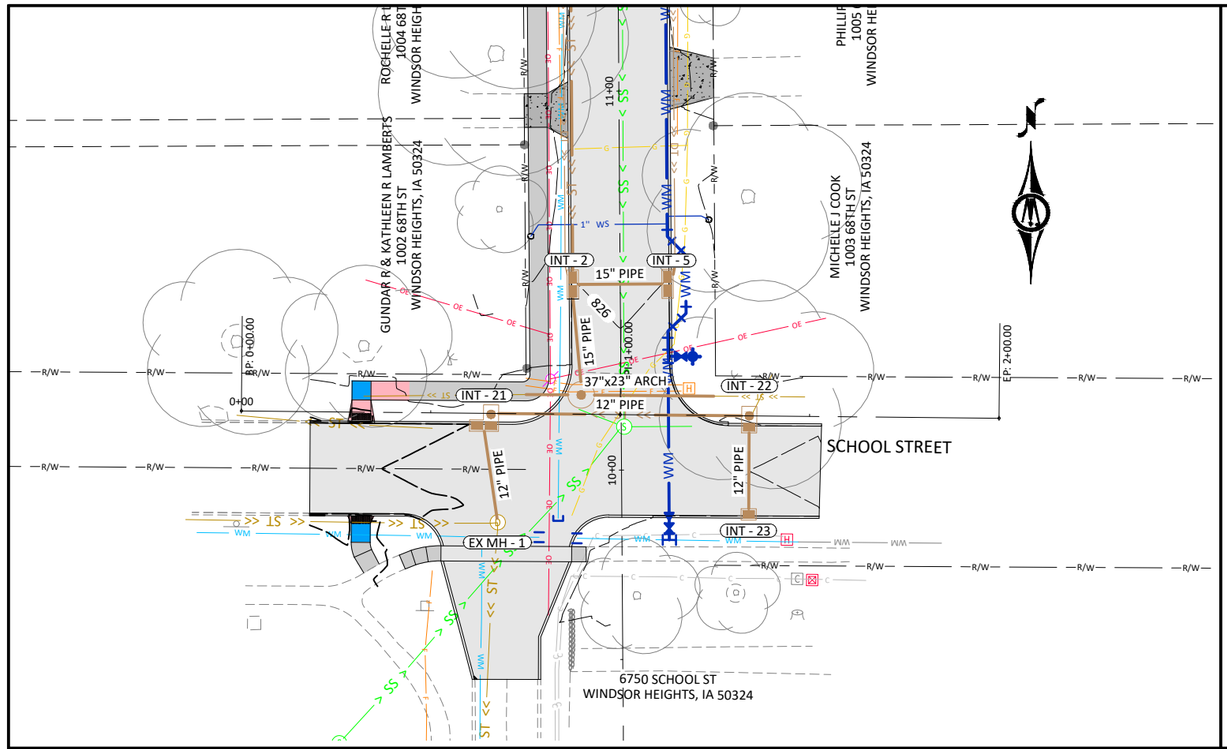
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

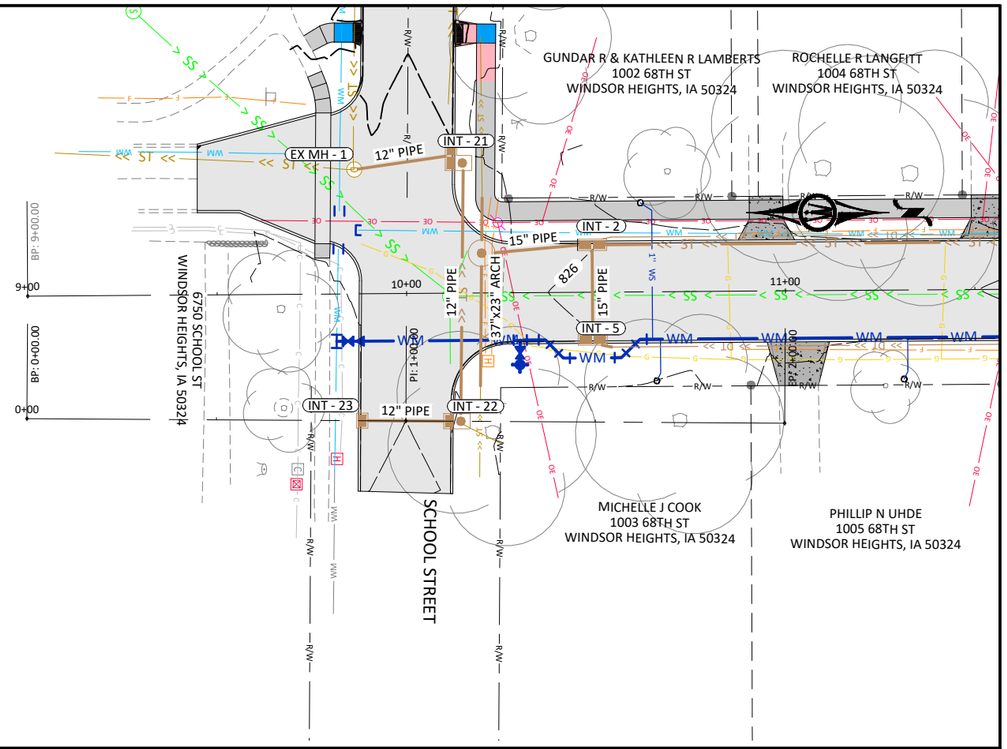
DESIGNED	FAM
DRAWN	PL
CHECKED	JLE
CLIENT PROJ. NO.	0A1.133739

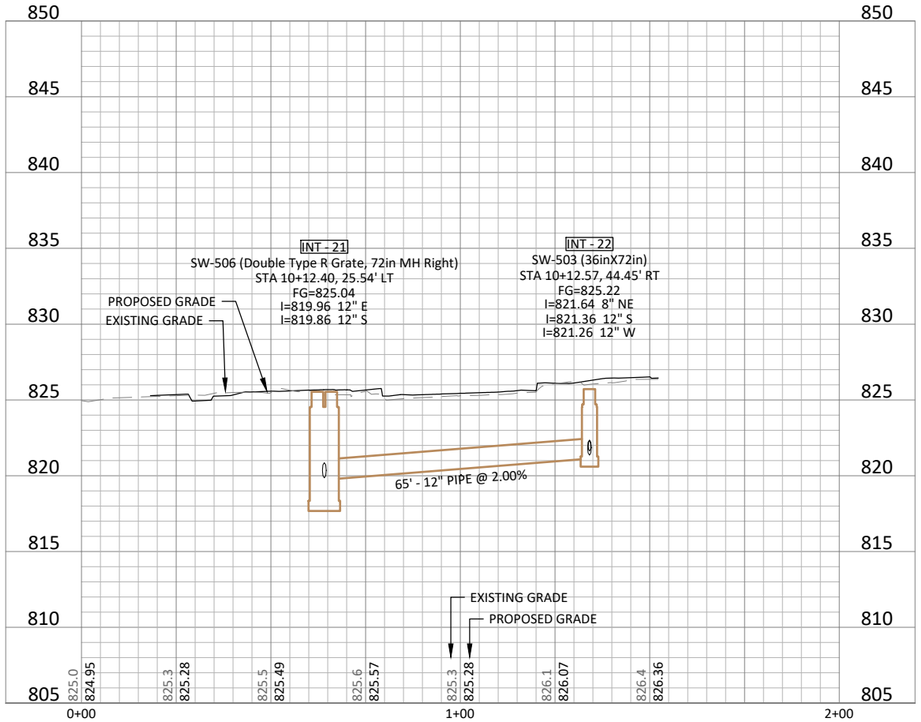
REV	DESCRIPTION	DATE

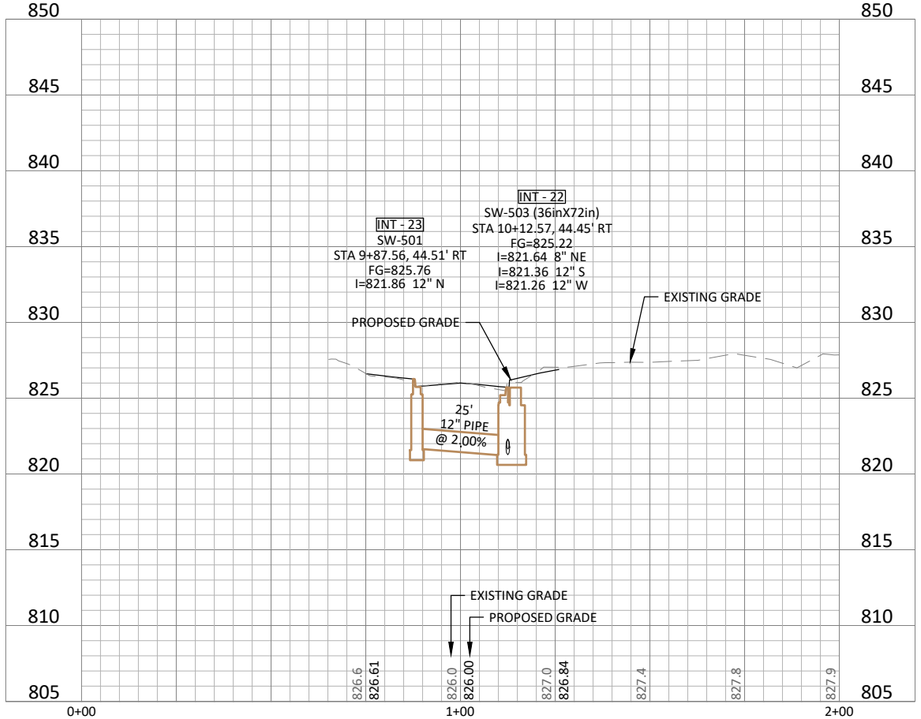
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER CROSS-RUNS

SHEET M1.16









HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

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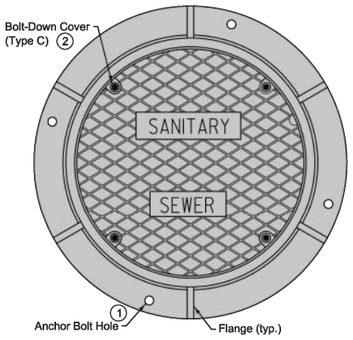
DRAWN PL			
CHECKED JLE			
CLIENT PROJ. NO. 0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
STORM SEWER CROSS-RUNS

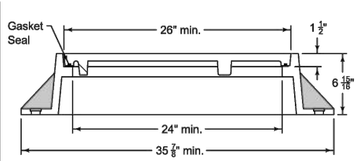
SHEET M1.17

TYPE A
Two-piece fixed casting

TYPE C
Two-piece fixed casting with bolt-down cover (2)



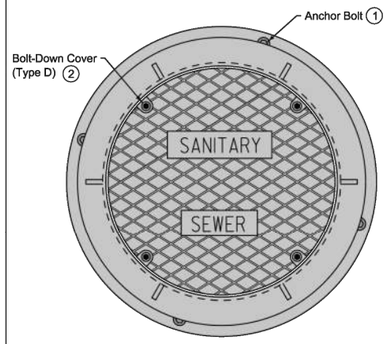
PLAN



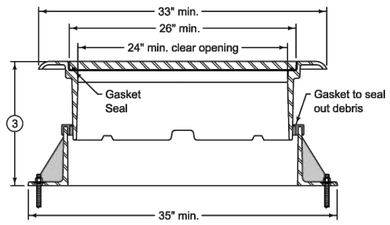
TYPICAL SECTION

TYPE B: HMA
Three-piece floating casting for use in HMA paving

TYPE D: HMA
Three-piece floating casting with bolt-down cover for use in HMA paving (2)



PLAN



TYPICAL SECTION

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary.
Minimum one concealed pickhole.

(1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

(2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.

(3) Casting height varies. Minimum adjustment range of 4 inches.

SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.601	STANDARD ROAD PLAN	SW-601
		SHEET 1 of 2

REVISIONS: Add option for 3-piece HMA casting

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

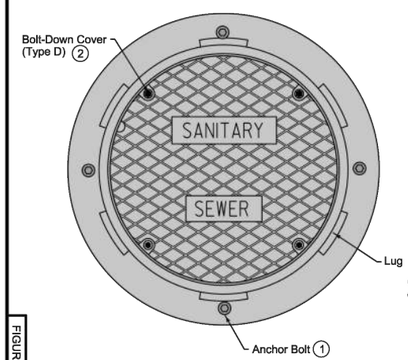
CASTINGS FOR SANITARY SEWER MANHOLES

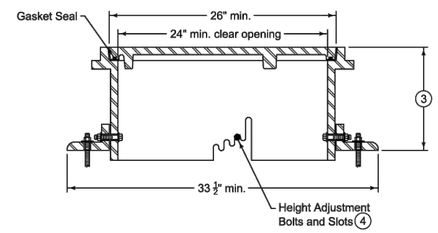
FIGURE 6010.601 | SHEET 1 OF 2

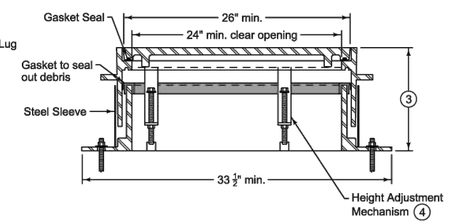
SANITARY SERVICE TABLE		
ADDRESS	EXISTING SERVICE SIZE & MATERIAL	APPROOXIMATE LENGTH

TYPE B: PCC
Three-piece floating casting for use in PCC paving and PCC boxouts

TYPE D: PCC
Three-piece floating casting with bolt-down cover for use in PCC paving and PCC boxouts







TYPICAL SECTION (5)

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary.
Minimum one concealed pickhole.

(1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.

(2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.

(3) Casting height varies. Minimum adjustment range of 4 inches.

(4) Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.

(5) Height adjustment method may vary; two options are shown.

SUDAS	IOWADOT	REVISION 4 04-21-20
FIGURE 6010.601	STANDARD ROAD PLAN	SW-601
		SHEET 2 of 2

REVISIONS: Add option for 3-piece HMA casting

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

CASTINGS FOR SANITARY SEWER MANHOLES

FIGURE 6010.601 | SHEET 2 OF 2

WINDSOR HEIGHTS
the heart of it all

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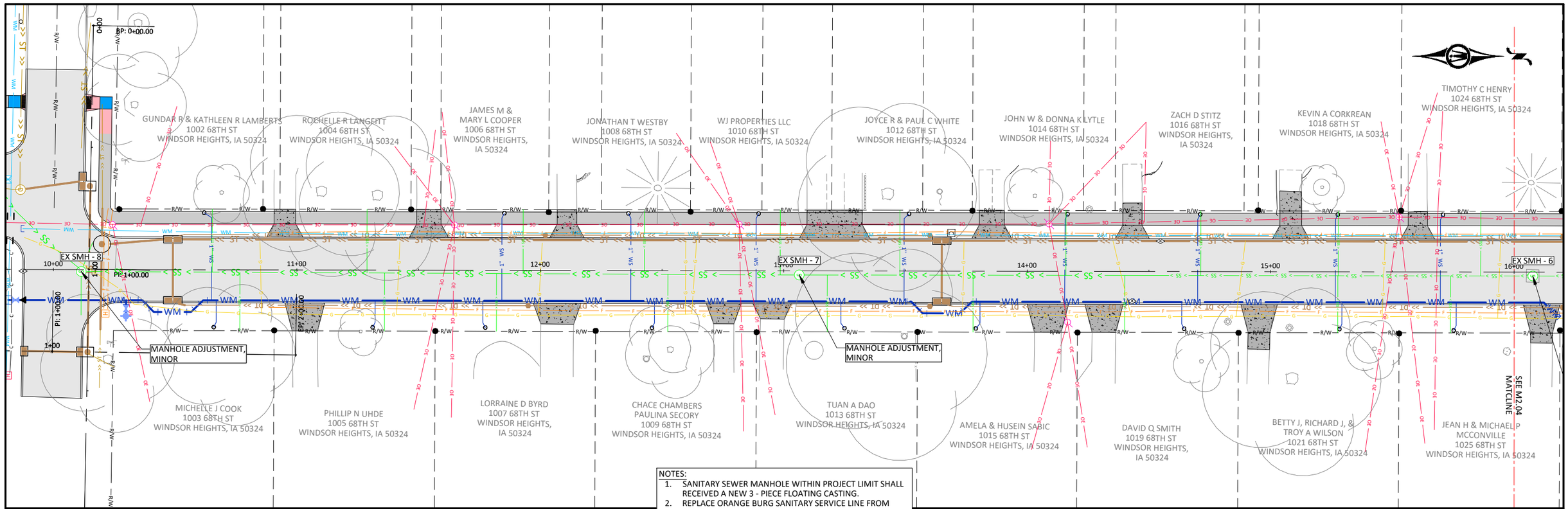
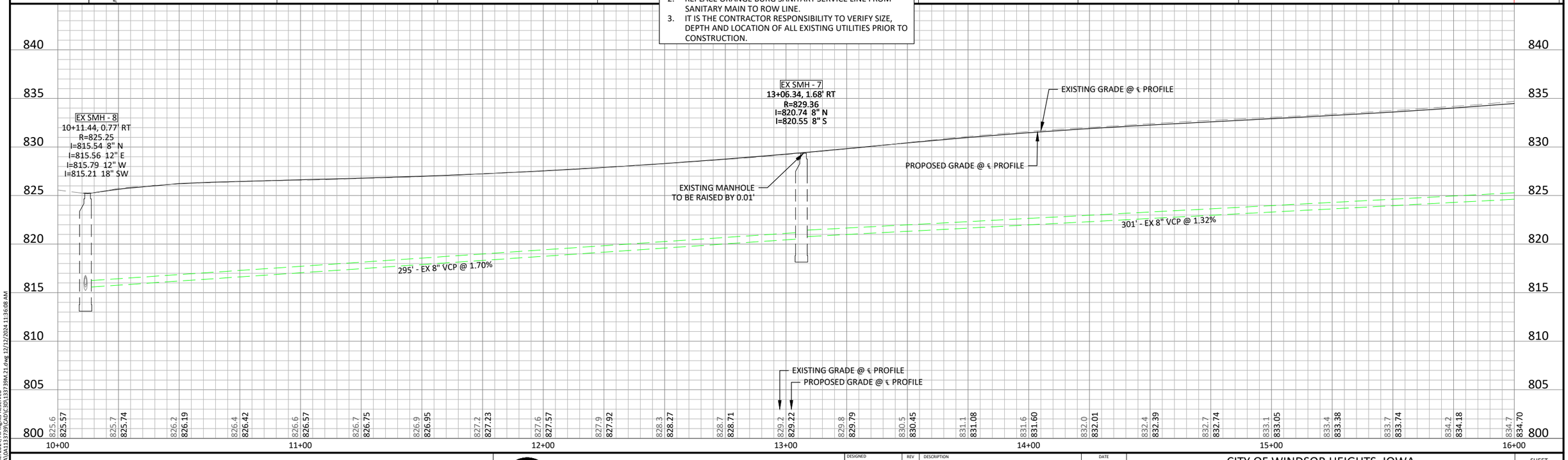
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SANITARY SEWER DETAILS & TABULATION

SHEET M2.01



NOTES:
1. SANITARY SEWER MANHOLE WITHIN PROJECT LIMIT SHALL RECEIVED A NEW 3 - PIECE FLOATING CASTING.
2. REPLACE ORANGE BURG SANITARY SERVICE LINE FROM SANITARY MAIN TO ROW LINE.
3. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY SIZE, DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.



HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

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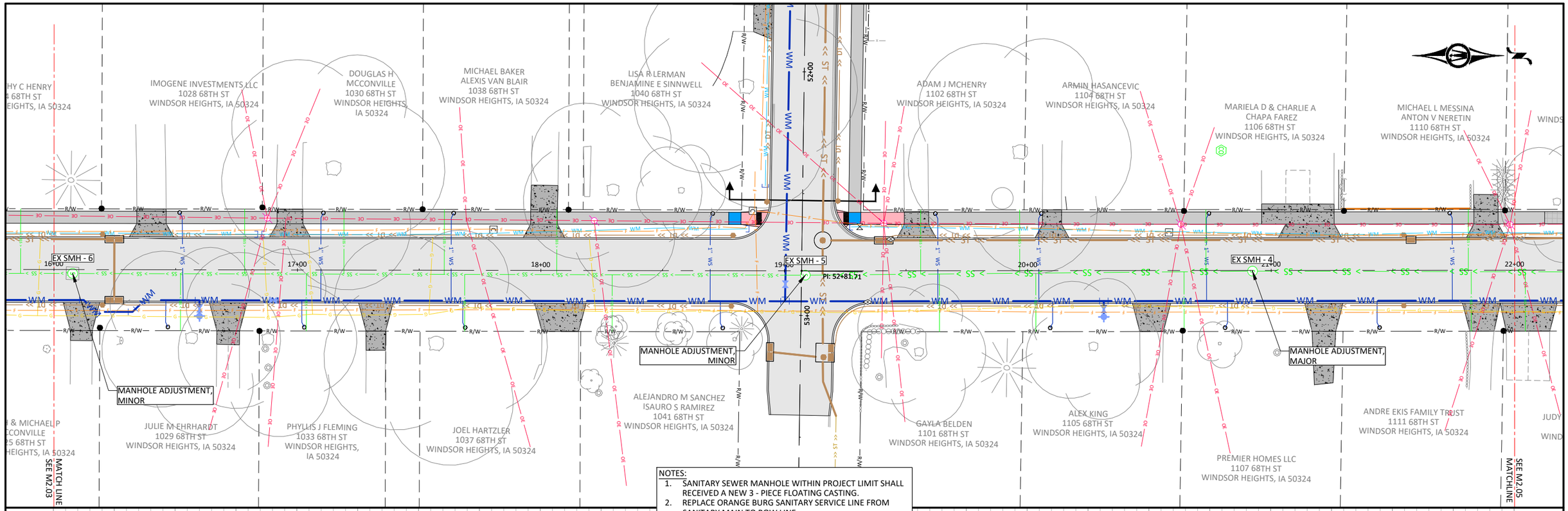
CHECKED	JLE
CLIENT PROJ. NO.	0A1.133739

REV	DESCRIPTION	DATE

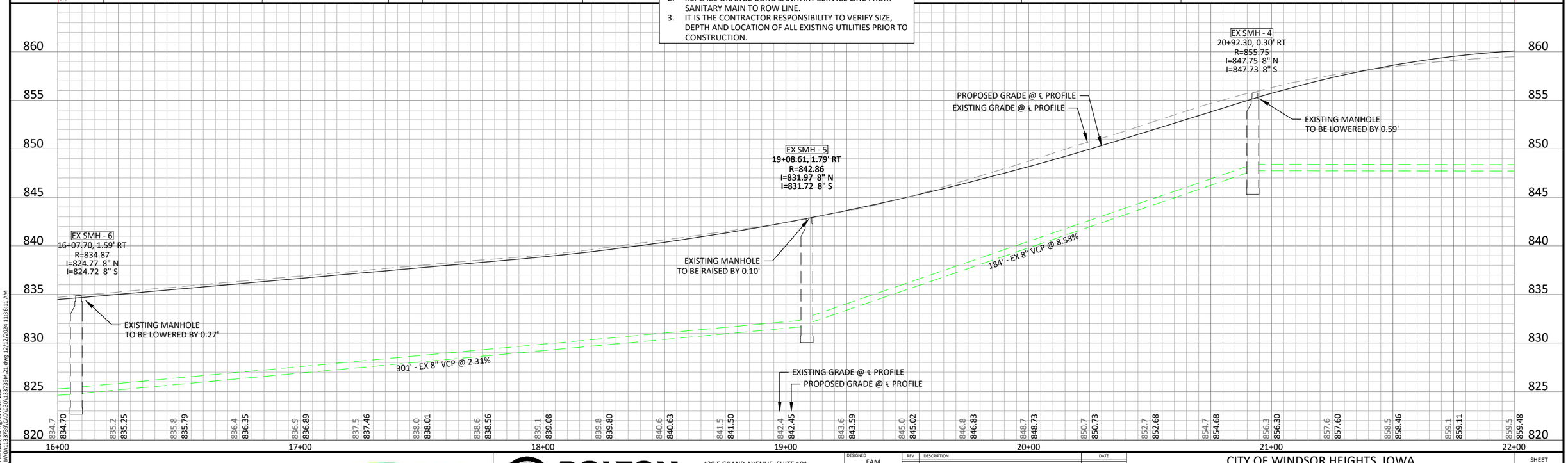
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SANITARY SEWER PLAN - 68TH STREET

SHEET M2.02



NOTES:

1. SANITARY SEWER MANHOLE WITHIN PROJECT LIMIT SHALL RECEIVED A NEW 3 - PIECE FLOATING CASTING.
2. REPLACE ORANGE BURG SANITARY SERVICE LINE FROM SANITARY MAIN TO ROW LINE.
3. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY SIZE, DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.



HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS

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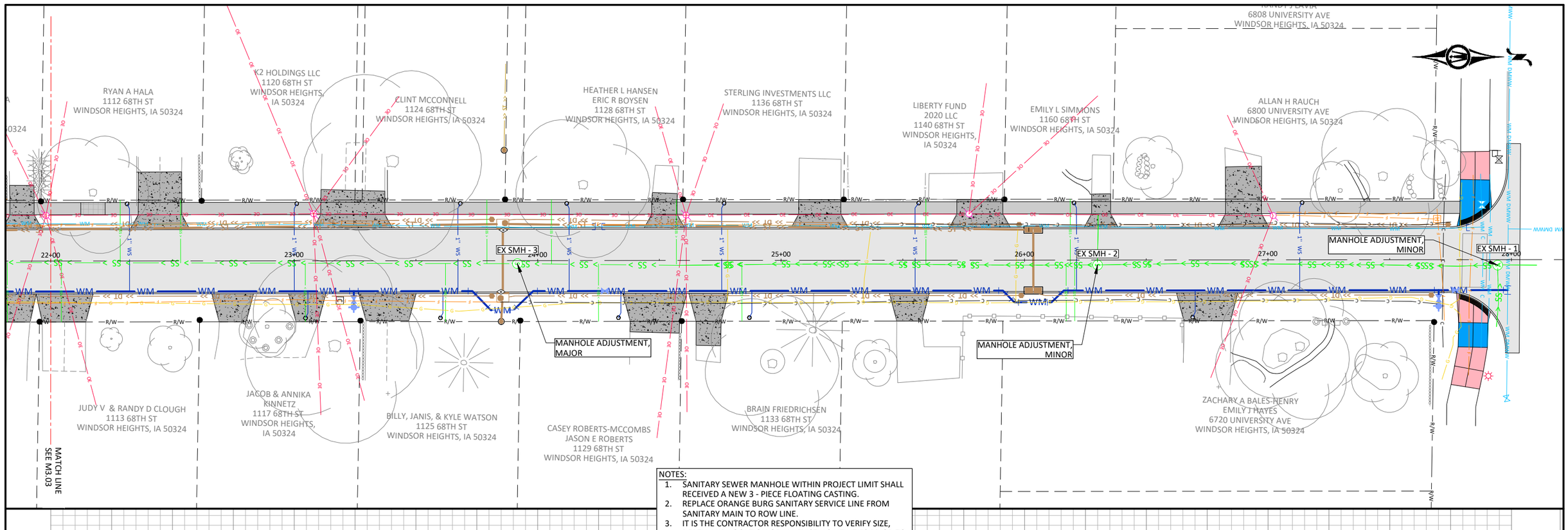
CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

SANITARY SEWER PLAN - 68TH STREET

SHEET M2.03



NOTES:

1. SANITARY SEWER MANHOLE WITHIN PROJECT LIMIT SHALL RECEIVED A NEW 3 - PIECE FLOATING CASTING.
2. REPLACE ORANGE BURG SANITARY SERVICE LINE FROM SANITARY MAIN TO ROW LINE.
3. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY SIZE, DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

HORZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

SANITARY SEWER PLAN - 68TH STREET

SHEET M2.04

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WATER MAIN CONSTRUCTION NOTES:

1. SHOP DRAWING REVIEW: DMWW TO REVIEW SHOP DRAWING SUBMITTALS FOR ALL MATERIAL RELATED TO WATER MAIN WORK AS SOON AS PRACTICABLE AFTER NOTICE TO PROCEED AND PRIOR TO PURCHASE. DMWW REQUIRES A MINIMUM OF 15 DAYS FOR REVIEW. CONTRACTOR TO SUBMIT SHOP DRAWINGS ELECTRONICALLY TO:
   CARLA SCHUMACHER
   CSCHUMACHER@DMWW.COM
   OFFICE: (515) 323-6227
2. INSPECTION: A DMWW'S ENGINEERING TECHNICIAN WILL BE ASSIGNED AS AN INSPECTOR FOR THE PROJECT TO INSPECT MATERIALS USED AND WORK DONE FOR CONFORMANCE TO PLANS AND SPECIFICATIONS.
3. PAYMENT: DMWW ENGINEERING TECHNICIAN WILL COORDINATE WITH CITY INSPECTOR FOR INSTALLED QUANTITIES FOR PAY APPLICATIONS.
4. CHANGE ORDERS: CONTRACTOR, DMWW INSPECTOR, AND CITY INSPECTOR TO AGREE ON COMPENSATION **PRIOR** TO COMMENCING ANY WORK THAT IS NOT COVERED BY THE CONTRACT FOR WATER MAIN ITEMS. **WORK PERFORMED PRIOR TO AN AGREEMENT WILL NOT BE CONSIDERED FOR COMPENSATION.**
5. START OF WORK NOTIFICATION: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN 48 HOURS PRIOR TO START OF WATER MAIN RELATED CONSTRUCTION ACTIVITY FOR EACH STAGE OF CONSTRUCTION INVOLVING WATER MAIN INSTALLATION.
6. WATER SHUTDOWNS:
   - 6.1. CONTRACTOR TO NOTIFY CUSTOMERS A MINIMUM OF 24 HOURS IN ADVANCE OF WATER SHUTDOWNS. DMWW WILL PROVIDE DOOR TAGS TO CONTRACTOR. DMWW TO ASSIST CONTRACTOR IN IDENTIFICATION OF SERVICES REQUIRING CUSTOMER NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.
   - 6.2. CONTRACTOR REQUIRED TO NOTIFY BUSINESS CUSTOMERS A MINIMUM OF 72 HOURS IN ADVANCE OF WATER SHUTDOWNS. COORDINATE WITH DMWW PERSONNEL FOR SCHEDULING AND NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.
   - 6.3. WATER MAIN SHUTDOWNS MAY NEED TO BE COMPLETED OUTSIDE OF NORMAL WORKING HOURS (7 AM TO 7 PM) TO MINIMIZE IMPACT ON AFFECTED CUSTOMERS. NO ADDITIONAL COMPENSATION WILL BE PAID FOR WORK OUTSIDE NORMAL WORKING HOURS.
7. CONNECTION TO EXISTING WATER MAINS: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN A MINIMUM OF 72 HOURS BEFORE BEGINNING WORK THAT REQUIRES ISOLATION OF A PORTION OF THE DISTRIBUTION SYSTEM.
8. VALVE AND HYDRANT OPERATION: ALL VALVES AND HYDRANTS TO BE OPERATED BY DMWW PERSONNEL ONLY. CONTRACTOR TO COORDINATE WITH ENGINEERING TECHNICIAN 72 HOURS IN ADVANCE OF REQUIRED OPERATION.
9. DISINFECTION:
   - 9.1. WATER MAIN RELOCATION - PRESSURE TEST AND CHLORINATE IN ACCORDANCE WITH SPECIAL PROVISIONS 026740 AND 026750. ALLOW A MINIMUM OF 3 DAYS FOR EACH SECTION TO BE TESTED. AS DESIGNED THERE ARE 3 SECTIONS.
   - 9.2. SHORT STRETCHES OF WATER MAIN AT CONNECTION POINTS MAY BE DISINFECTED BY SWAB METHOD ONLY WHEN THE DMWW ENGINEERING TECHNICIAN IS ON SITE.
10. TAPS ON WATER MAIN:
    - 10.1. CONTRACTOR TO SCHEDULE ALL TAPS WITH DMWW CUSTOMER SERVICE BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. TAPS INCLUDE:
      - 10.1.1. 1" CHLORINATION TAPS
      - 10.1.2. 1" AND 2" WATER SERVICE TRANSFER TAPS
    - 10.2. TAPPING SLEEVES & VALVES ARE SCHEDULED BY DMWW ENGINEERING TECHNICIAN.
    - 10.3. CONTRACTOR SHALL HAVE EXCAVATION PREPARED AND PROPERLY SHORED IN ADVANCE OF SCHEDULED TAP IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS.
11. WATER MAIN SPECIFIC QUESTIONS OR COMPLAINTS FROM CUSTOMERS ARE TO BE REFERRED TO DMWW'S ENGINEERING TECHNICIAN AND CITY INSPECTOR IMMEDIATELY.
12. TRENCHES WILL NOT BE LEFT OPEN WHEN CONTRACTOR IS NOT WORKING. PLACE WATERTIGHT BULKHEADS ON NEW MAIN.
13. TRAFFIC CONTROL FOR THE PROJECT WILL REQUIRE CONSIDERATION OF WATER MAIN CONSTRUCTION REQUIREMENTS, INCLUDING ABANDONMENT OF EXISTING WATER MAIN AND REMOVAL OF HYDRANTS AND VALVE BOXES THAT MAY BE IN THE WAY OF NEW PAVING OR STRUCTURES.
14. PREVENT ANY DIRT OR FOREIGN MATERIAL FROM ENTERING THE NEW MAIN BY INSTALLING TEMPORARY WATER TIGHT PLUG OR CAP ON END OF THE PIPE DURING ANY STOPPAGE OR INSTALLATION.

C900 PVC & CL52 DIP Restrained Joint (RJ) Table

Nominal Pipe Diameter (in)	Pipe Material**	Minimum Restrained Length (ft)*							
		Horizontal & Vertical (Up) Bend				Vertical (Down) Bend			Cap/Dead End
		11.25°	22.5°	45°	90°	11.25°	22.5°	45°	
16	PVC	7	14	29	70	19	39	80	147
12	PVC	6	11	23	55	15	30	62	113
8	PVC	4	8	16	39	10	21	44	80
16	DIP	7	14	28	70	17	35	73	178
12	DIP	5	10	21	50	14	28	28	139
8	DIP	4	8	16	38	10	19	40	97

*Use restrained joints on all pipe joints that fall within the lengths above on both sides of the fitting indicated.

**Ductile Iron Pipe (DIP) is assumed to be polyethlene encased

***This table is based on the following assumptions:

	Soil Type:	ML
	Factor of Safety:	2
	Min. Bury Depth:	5
	Test Pressure:	150
	Trench Condition:	Type 3

WATER MAIN FITTING SCHEDULE 68TH ST

For Information Only

Item No.	Description	Unit	Unit Weight (lb)	Estimated Quantity	Total Weight	As Built Total
1	6" SOLID SLEEVE	EACH	33	2	66	
2	6" CAP	EACH	15	4	60	
3	6"x6" TEE	EACH	56	1	56	
4	8" CAP	EACH	22	2	44	
4	8" 11.25 BEND	EACH	42	2	84	
5	8" 22.50 BEND	EACH	46	1	46	
6	8" 45 BEND	EACH	46	26	1196	
7	8"x6" REDUCER	EACH	36	1	36	
8	8"x6" TEE	EACH	72	5	360	
9	8"x8" TEE	EACH	86	1	86	
10	10"x8" TEE	EACH	105	1	105	
TOTAL WATER MAIN FITTINGS (LB.)					2139	

NOTES:
UNIT WEIGHT MEASUREMENT IS PER AWWA C153 - DUCTILE IRON COMPACT FITTINGS.

WATERMAIN FITTING TABLE

ITEM	STATION	STREET	SIDE (L/R)	TYPE	SIZE	REMARKS
1	9+81.47	SCHOOL ST	12.50 R	MJ X AJ TEE	6"x6"	
2	9+82.07	SCHOOL ST	11.89 L	SOLID SLEEVE	6"	
3	9+82.43	SCHOOL ST	21.88 L	SOLID SLEEVE	6"	
4	9+84.47	SCHOOL ST	12.50 R	VALVE	6"	
5	9+86.60	SCHOOL ST	16.81 L	CAP	6"	
6	9+86.24	SCHOOL ST	12.50 R	REDUCER	8"x6"	
8	9+90.60	SCHOOL ST	12.50 R	45° BEND	8"	VERTICAL
9	9+98.58	SCHOOL ST	12.50 R	45° BEND	8"	HORIZONTAL
10	10+19.52	SCHOOL ST	12.50 R	45° BEND	8"	VERTICAL
11	10+24.52	SCHOOL ST	12.50 R	45° BEND	8"	HORIZONTAL
12	10+29.92	68TH ST	12.50 R	MJ X MJ TEE	8"x6"	PART OF HYDRANT ASSEMBLY
13	10+36.56	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
14	10+41.24	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
15	10+56.57	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
16	10+61.56	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
17	13+52.37	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
18	13+57.06	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
19	13+72.38	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
20	13+77.37	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
21	16+12.28	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
22	16+16.96	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
23	16+32.29	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
24	16+37.28	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
25	16+59.80	68TH ST	12.50 R	MJ X MJ TEE	8"x6"	PART OF HYDRANT ASSEMBLY
26	16+83.00	68TH ST	14.66 L	CAP	8"	
27	16+86.00	68TH ST	14.65 L	VALVE & CAP	8" & 4"	8" TEMPORARY CAP & 4 " VALVE
28	16+89.99	68TH ST	12.50 R	VALVE & CAP	8" & 4"	8" TEMPORARY CAP & 4 " VALVE
29	18+84.82	68TH ST	17.24 L	CAP	6"	
30	49+96.47	MOTT AVE	5.48 R	SOLID SLEEVE	8"	
31	50+05.98	MOTT AVE	15.06 R	CAP	6"	
32	52+46.97	MOTT AVE	15.36 R	CAP	6"	
33	19+00.31	68TH ST	12.00 R	MJ X AJ TEE	8"x8"	
34	19+00.42	68TH ST	5.51 R	VALVE	8"	
35	19+20.78	68TH ST	12.50 R	45° BEND	8"	VERTICAL
36	19+27.51	68TH ST	17.65 L	CAP	6"	
37	19+30.16	68TH ST	12.50 R	45° BEND	8"	VERTICAL
38	19+50.16	68TH ST	12.50 R	22.5° BEND	8"	VERTICAL
39	20+31.22	68TH ST	12.50 R	MJ X MJ TEE	8"x6"	PART OF HYDRANT ASSEMBLY
40	21+50.14	68TH ST	12.50 R	11.25° BEND	8"	VERTICAL
41	23+24.49	68TH ST	12.50 R	MJ X MJ TEE	8"x6"	PART OF HYDRANT ASSEMBLY
42	23+73.18	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
43	23+80.73	68TH ST	20.33 R	45° BEND	8"	HORIZONTAL
44	23+90.06	68TH ST	20.33 R	45° BEND	8"	HORIZONTAL
45	23+98.18	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
46	24+23.08	68TH ST	13.93 L	CAP	8"	
47	24+27.59	68TH ST	13.97 L	VALVE & CAP	8" & 4"	TEMPORARY CAP & 4 " VALVE
48	24+27.59	68TH ST	12.50 R	VALVE & CAP	8" & 4"	TEMPORARY CAP & 4 " VALVE
49	25+91.11	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
50	25+98.76	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
51	26+11.09	68TH ST	17.33 R	45° BEND	8"	HORIZONTAL
52	26+16.11	68TH ST	12.50 R	45° BEND	8"	HORIZONTAL
52	27+70.09	68TH ST	12.50 R	MJ X MJ TEE	8"x6"	PART OF HYDRANT ASSEMBLY
53	27+77.14	68TH ST	12.00 R	VALVE	8"	
54	27+81.55	68TH ST	13.18 L	CAP	6"	
55	27+91.67	68TH ST	12.00 R	11.25 BEND	8"	
56	27+98.43	68TH ST	12.00 R	MJ X AJ TEE	10"x8"	

WATER MAIN FITTING SCHEDULE MOTT AVE

For Information Only

Item No.	Description	Unit	Unit Weight (lb)	Estimated Quantity	Total Weight	As Built Total
1	6" CAP	EACH	15	2	30	
2	8" SOLID SLEEVE	EACH	46	1	46	
TOTAL WATER MAIN FITTINGS (LB.)					76	

NOTES:
UNIT WEIGHT MEASUREMENT IS PER AWWA C153 - DUCTILE IRON COMPACT FITTINGS.

WINDSOR HEIGHTS
BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

DESIGNED FAM | DRAWN PL | CHECKED JLE | CLIENT PROJ. NO. OA1.133739

REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
WATER MAIN GENERAL NOTES

SHEET MWM.01

WATER SERVICE SCHEDULE

EXISTING SERVICE CONNECTION INFORMATION

SHEET	ADDRESS	STREET TAPPED	NAME	SERVICE SIZE	MATERIAL TYPE	CONNECTION TYPE
MWM.04	1002 68TH ST	68TH ST	GUNDAR & KATHLEEN LAMBERTS		UNKNOWN	
MWM.04	1003 68TH ST	68TH ST	MICHELLE J COOK		UNKNOWN	
MWM.04	1004 68TH ST	68TH ST	ROCHEELE R LANGFITT		UNKNOWN	
MWM.04	1005 68TH ST	68TH ST	PHILLIP N UHDE		UNKNOWN	
MWM.04	1006 68TH ST	68TH ST	JAMES M & MARY L COOPER		UNKNOWN	
MWM.04	1007 68TH ST	68TH ST	LORRAINE D BYRD		UNKNOWN	
MWM.04	1008 68TH ST	68TH ST	JONATHAN T WESTBOY		UNKNOWN	
MWM.04	1009 68TH ST	68TH ST	CHACE CHAMBERS PAULINA SECORY		UNKNOWN	
MWM.04	1010 68TH ST	68TH ST	WJ PROPERTIES LLC		UNKNOWN	
MWM.04	1012 68TH ST	68TH ST	JOYCE R & PAUL C WHITE		UNKNOWN	
MWM.04	1013 68TH ST	68TH ST	TAUN A DAO		UNKNOWN	
MWM.04	1014 68TH ST	68TH ST	JOHN & DONNA K LYTLE		UNKNOWN	
MWM.04	1015 68TH ST	68TH ST	AMELA & HUSEN SABIC		UNKNOWN	
MWM.05	1016 68TH ST	68TH ST	ZACH D STITZ		UNKNOWN	
MWM.05	1018 68TH ST	68TH ST	KEVIN A CORKREAN		UNKNOWN	
MWM.05	1019 68TH ST	68TH ST	DAVID Q SMITH		UNKNOWN	
MWM.05	1021 68TH ST	68TH ST	BETTY J, RICAHRD J , & TROY A WILSON		UNKNOWN	
MWM.05	1024 68TH ST	68TH ST	TIMOTHY CHENRY		SUSPECT LEAD	
MWM.05	1025 68TH ST	68TH ST	JEAN H & MICHEAL P MCCONVILLE		UNKNOWN	
MWM.05	1028 68TH ST	68TH ST	IMOGENE INVESTMENTS LLC		SUSPECT LEAD	
MWM.05	1029 68TH ST	68TH ST	JULIE M EHRHARDT		UNKNOWN	
MWM.05	1030 68TH ST	68TH ST	DOUGLASH MCCONVILLE		SUSPECT LEAD	
MWM.05	1033 68TH ST	68TH ST	PHYLLIS J FLEMING		UKNOWN	
MWM.05	1037 68TH ST	68TH ST	JEOL HARZLER		UNKNOWN	
MWM.05	1038 68TH ST	68TH ST	MICHEAL BAKER ALEXIS VAN BLAIR		UNKNOWN	
MWM.05	1040 68TH ST	68TH ST	LISA R LERMAN		SUSPECT LEAD	
MWM.05	1041 68TH ST	68TH ST	ALEJANDRO M SANCHEZ & ISAURO S RAMIREZ		SUSPECT LEAD	
MWM.06	1101 68TH ST	68TH ST	GAYLA BELDEN		SUSPECT LEAD	
MWM.06	1102 68TH ST	68TH ST	ADAM J MCHENRY		SUSPECT LEAD	
MWM.06	1104 68TH ST	68TH ST	ARMIN HASANCEVIC		UNKNOWN	
MWM.06	1105 68TH ST	68TH ST	ALEX KING		UNKNOWN	
MWM.06	1106 68TH ST	68TH ST	MARIELA & CHARLIE CHAPA FAREZ		UNKNOWN	
MWM.06	1107 68TH ST	68TH ST	PREMIR HOMES LLC		UNKNOWN	
MWM.06	1110 68TH ST	68TH ST	MICHEAL L MESSINA ANTON NERETIN		SUSPECT LEAD	
MWM.06	1111 68TH ST	68TH ST	ANDRE EKIS FAMILY TRUST		SUSPECT LEAD	
MWM.06	1112 68TH ST	68TH ST	RYAN A HALA		UNKNOWN	
MWM.06	1113 68TH ST	68TH ST	JUDY V & RANDY D CLOUGH		UNKNOWN	
MWM.06	1117 68TH ST	68TH ST	JACOB & ANNIKA		UNKNOWN	
MWM.06	1120 68TH ST	68TH ST	K2 HOLDINGS LLC		SUSPECT LEAD	
MWM.06	1124 68TH ST	68TH ST	CLINT MCCONNELL		SUSPECT LEAD	
MWM.06	1125 68TH ST	68TH ST	BILLY,JANS, & KYLE WATSON		SUSPECT LEAD	
MWM.06	1128 68TH ST	68TH ST	HEATHER L HANSEN		UNKNOWN	
MWM.06	1129 68TH ST	68TH ST	CASEY ROBERT-MCCOMBS		SUSPECT LEAD	
MWM.07	1133 68TH ST	68TH ST	BRAIN FRIEDRICHSEN		SUSPECT LEAD	
MWM.07	1136 68TH ST	68TH ST	STERLING INVERMENTS LLC		SUSPECT LEAD	
MWM.07	1140 68TH ST	68TH ST	LIBERTY FUND 2020 LLC		SUSPECT LEAD	
MWM.07	1160 68TH ST	68TH ST	EMILY L SIMMONS		SUSPECT LEAD	
MWM.07	6720 UNIVERSITY AVE	68TH ST	ZAHARY A BALES-HENRY EMILY J HAYES		UNKNOWN	
MWM.07	6800 UNIVERSITY AVE	68TH ST	ALLAN H RAUCH		SUSPECT LEAD	

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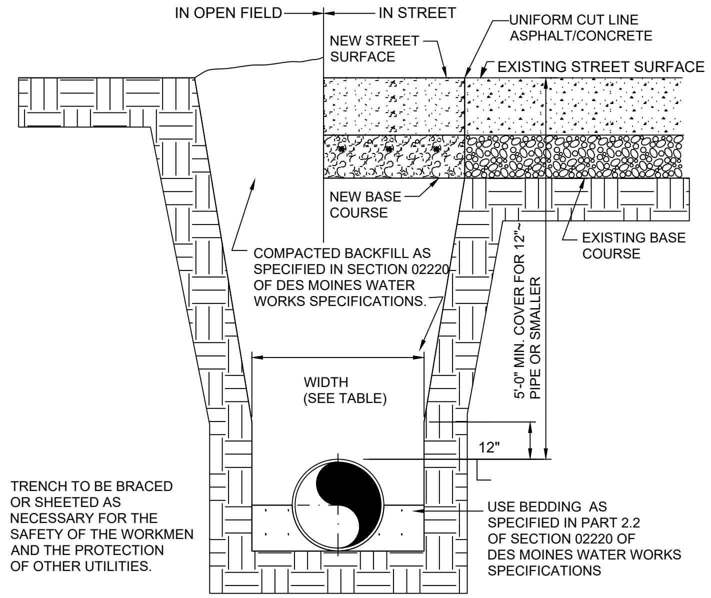
CHECKED			
JLE			
CLIENT PROJ. NO.			
0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
WATER MAIN SCHEDULE

SHEET
MWM.02



PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"

TYPICAL TRENCH SECTION

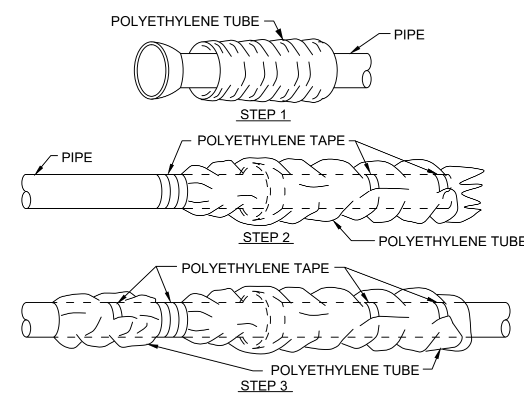
NOT TO SCALE

STEP 1 - PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO THE TRENCH

STEP 2 - PULL THE TUBE OVER THE LENGTH OF PIPE, TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE

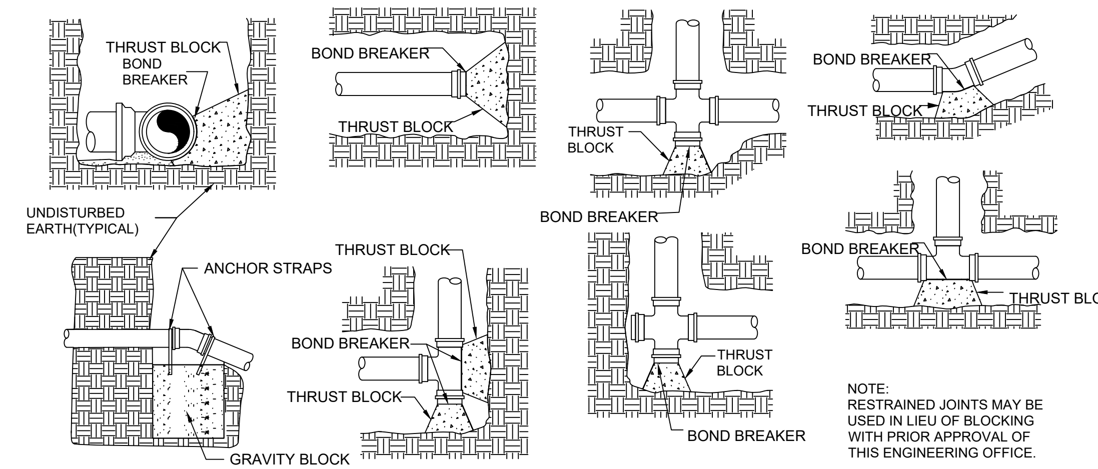
STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP AND TAPED IN PLACE.

NOTE: IRON PIPE FITTINGS, INCLUDING VALVES AND HYDRANTS SHALL BE WRAPPED WITH TWO LAYERS OF POLYETHYLENE MATERIAL. THE WRAPPING SHALL EXTEND AT LEAST 1' BEYOND THE FITTING JOINTS ONTO THE ADJOINING PIPE AND SHALL BE FASTENED TO THE PIPE WITH PLASTIC TAPE. TAPE SHALL BE USED AS NEEDED TO HOLD WRAP IN PLACE. EITHER POLYETHYLENE SHEETS OR SLIT TUBING MAY BE USED.



POLYETHYLENE WRAP FIELD INSTALLATION DETAIL

NOT TO SCALE



VOLUME IN CUBIC YARDS

SIZE OF PIPE	BENDS 11 1/4°	22.5°	45°	90°
4"	0.24	0.65	1.35	2.03
6"	0.24	0.65	1.35	2.03
8"	0.45	1.14	2.35	3.49
12"	0.98	2.44	4.99	7.38
16"	1.73	4.27	8.70	12.84
20"	2.66	6.56	13.36	19.70
24"	3.70	9.25	18.94	27.96
30"	5.73	14.26	29.15	42.99

VOLUME OF GRAVITY BLOCK

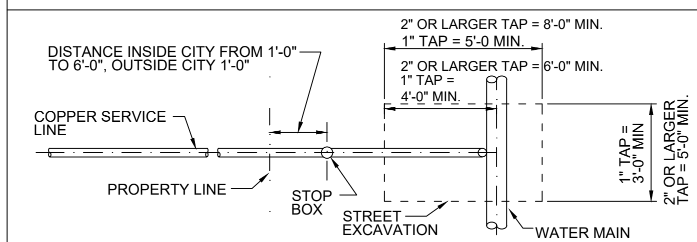
NOT TO SCALE

MINIMUM BEARING SURFACE (IN SQ. FT.)

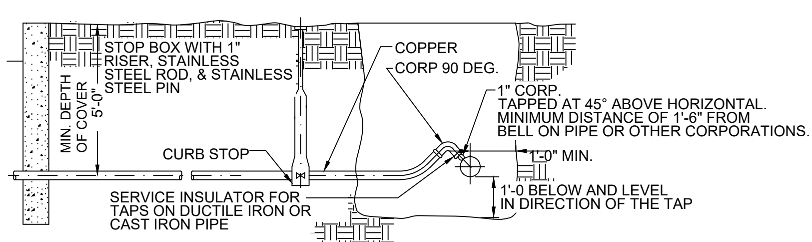
SIZE OF PIPE	BENDS 11 1/4°	22.5°	45°	90°	TEE OR DEAD END
6"	1	2	4	8	6
8"	2	4	8	14	10
12"	4	8	16	29	21
16"	7	14	28	51	36
20"	11	22	43	79	56
24"	16	31	61	112	79

STANDARD CONCRETE THRUST BLOCKS

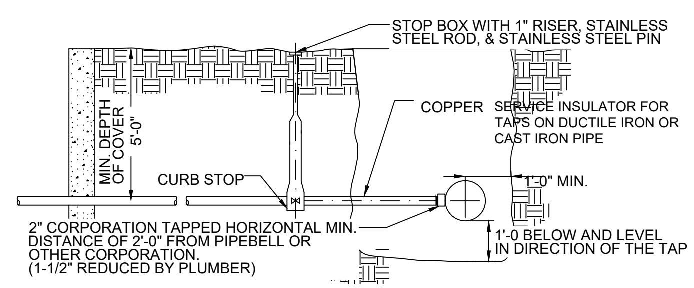
NOT TO SCALE



1" & 2" SERVICE INSTALLATION PLAN



1" SERVICE INSTATION SECTION



2" SERVICE INSTALLATION SECTION

SERVICE INSTALLATION

NOT TO SCALE

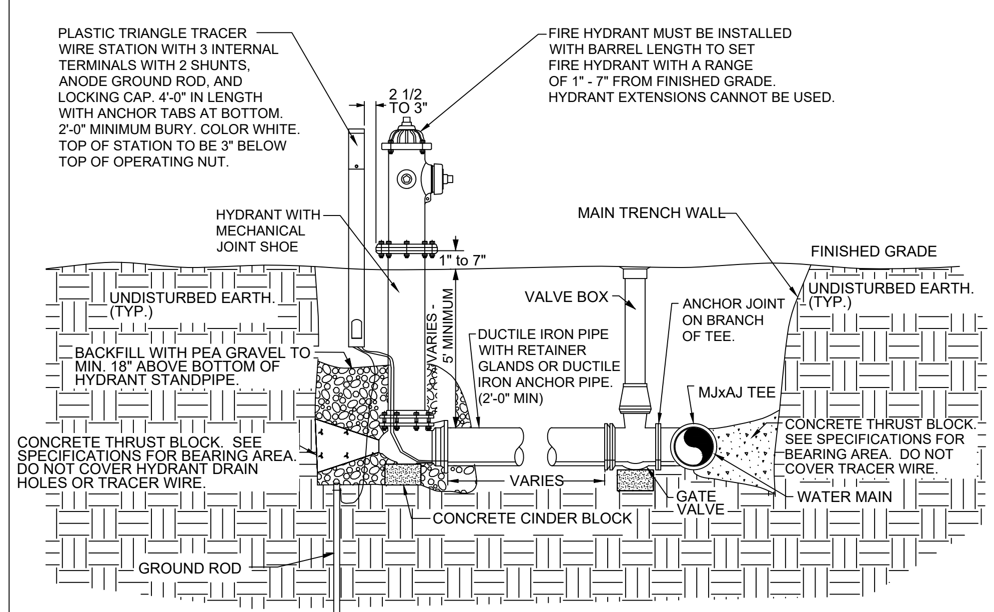
TRACER WIRE (SEE 505.6.6 FOR TRACER SYSTEM SPECIFICATIONS). FASTEN TO MIDPOINT OF EACH PIPE SECTION WITH PLASTIC TAPE. INSTALL ON ALL PIPE MATERIALS EXCLUDING TYPE K COPPER AND RED BRASS.

TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.

NOTE:

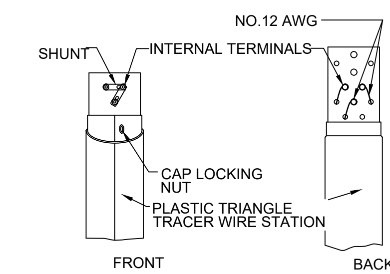
IRON PIPE, VALVE, FITTINGS AND HYDRANT (BURIED PORTION) TO BE WRAPPED WITH POLYETHYLENE ENCASEMENT MATERIAL PER DES MOINES WATER WORKS STANDARDS.

TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.



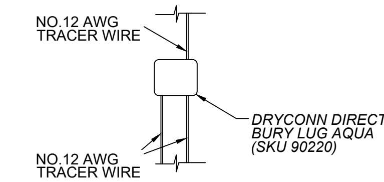
STANDARD HYDRANT ON WATER MAINS 16" OR LESS

NOT TO SCALE



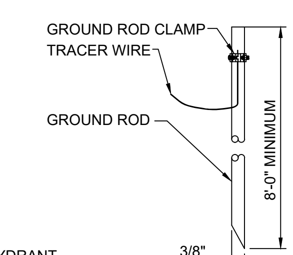
TRACER WIRE RECEPTACLE DETAIL

NOT TO SCALE



TRACER WIRE SPLICE DETAIL

NOT TO SCALE



GROUND ROD

3/8 MINIMUM DIAMETER

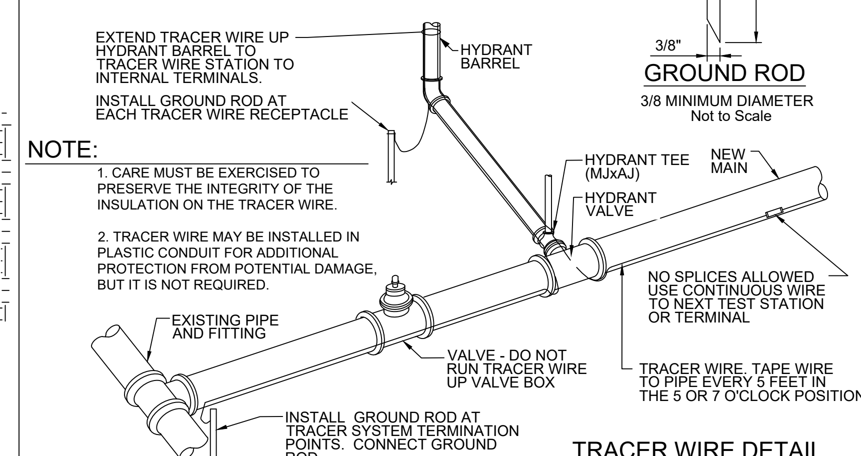
Not to Scale

TRACER WIRE (SEE 505.6.6 FOR TRACER SYSTEM SPECIFICATIONS). FASTEN TO MIDPOINT OF EACH PIPE SECTION WITH PLASTIC TAPE. INSTALL ON ALL PIPE MATERIALS EXCLUDING TYPE K COPPER AND RED BRASS.

NOTE:

1. CARE MUST BE EXERCISED TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE.

2. TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.



TRACER WIRE DETAIL

NOT TO SCALE

REVISIONS

NO.	DATE

DRAWN BY: DH · DESIGNED BY: DH · CHECKED BY: CJS

Des Moines Water Works — Water You Can Trust for Life

ENGINEERING DEPARTMENT

Des Moines, Iowa

STANDARD DETAIL SHEET

UPDATED 1-06-23

WINDSOR HEIGHTS the heart of it all

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

DES MOINES WATER WORKS DETAIL

SHEET MWM.03

NEW 8" PVC WATER MAIN
WITH TRACER WIRE

EXISTING 6" WATER TO BE ABANDONED IN PLACE
OR REMOVED AS REQUIRE FOR STORM INSTALLATION

SCHOOL STREET

68TH STREET

CLOSE VALVE AND REMOVE VALVE BOX
STA: 10+25.37
16.18 LT

REMOVE HYDT & VALVE BOX
STA: 10+42.36
20.06 LT

6" CAP
STA: 9+87.37
16.80 LT

6" SOLID SLEEVE
STA: 9+82.43
21.88 LT

REMOVE EXISTING TEE AND REPLACE WITH 5' SECTION OF 6" PVC WATER MAIN AND 2 SOLID SLEEVES
STA: 9+82.37
-16.88 LT

6" SOLID SLEEVE
STA: 9+82.07
11.89 LT

1" CHLORINATION TAP
POTHOLE LOCATION OF WATER MAIN

6"x6" MJxAJ TEE
STA: 9+81.47
12.50 RT

6" VALVE
STA: 9+84.47
12.50 RT

8"x6"REDUCER
STA: 9+86.60
12.50 RT

8"x6" MJxMJ TEE WITH ANCHOR SPOOL
STA: 10+29.92
12.50 RT

6" HYDRANT ASSEMBLY
STA: 10+29.81
19.00 RT

45° BEND
STA: 10+36.56
12.50 RT

45° BEND
STA: 10+41.24
17.33 RT

45° BEND
STA: 10+56.57
17.33 RT

45° BEND
STA: 10+61.56
12.50 RT

45° BEND
STA: 13+52.37
12.50 RT

45° BEND
STA: 13+57.06
17.33 RT

45° BEND
STA: 13+72.38
17.33 RT

45° BEND
STA: 13+77.37
12.50 RT

EX SMH - 8
EX SMH - 7
INT - 2
INT - 3
INT - 5
INT - 6

12" STM
67" x 23" ARCH

EX 8" VCP
EX 3" GAS
3' MIN
10' MIN

BP: 0+00.00
PI: 1+00.00
PP: 2+00.00

WINDSOR HEIGHTS, IA 50324
6750 SCHOOL ST

GUNDAR R & KATHLEEN R LAMBERTS
1002 68TH ST
WINDSOR HEIGHTS, IA 50324

ROCHELLE R LANGEITT
1004 68TH ST
WINDSOR HEIGHTS, IA 50324

JAMES M & MARY L COOPER
1006 68TH ST
WINDSOR HEIGHTS, IA 50324

JONATHAN T WESTBY
1008 68TH ST
WINDSOR HEIGHTS, IA 50324

WJ PROPERTIES LLC
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JOHN W & DONNA K LYTLE
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WINDSOR HEIGHTS, IA 50324

ZACH D
1016 6
WINDSOR
IA 50

MICHELLE J COOK
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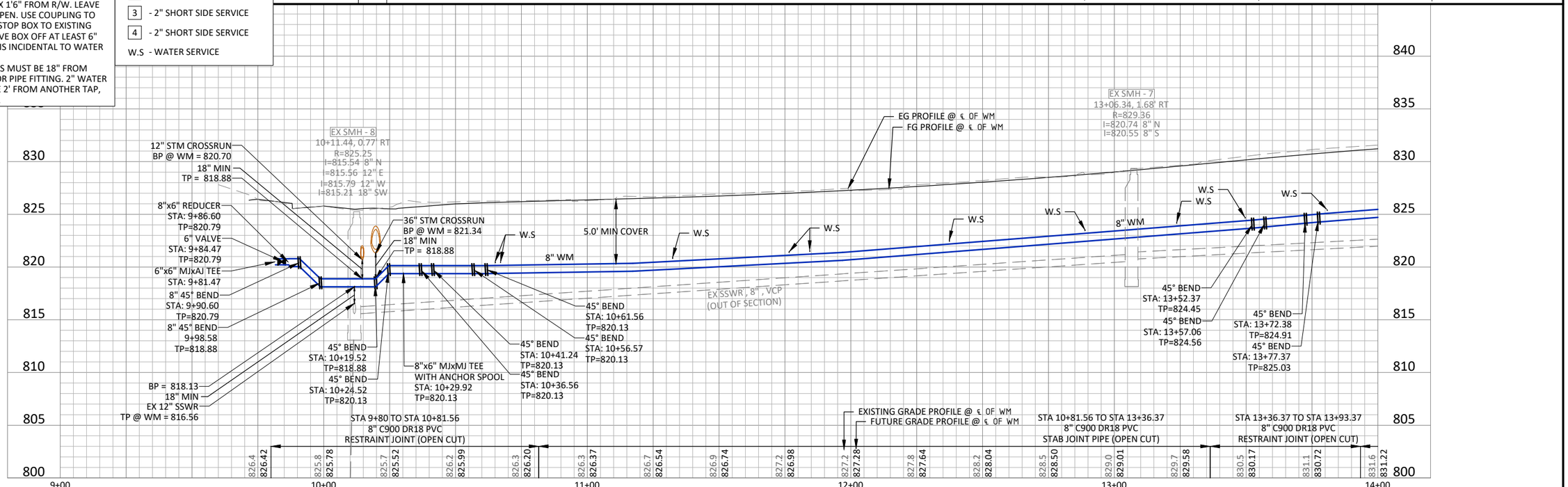
AMELA & HUSEIN SABIC
1015 68TH ST
WINDSOR HEIGHTS, IA 50324

DAVID Q SMITH
1019 68TH ST
WINDSOR HEIGHTS, IA 50324

NOTES:
1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES
2. SEE F SHEETS FOR REMOVALS.
3. FIELD VERIFY EXISTING BELL LOCATION. COORDINATE REALIGNMENT WITH DMWW IF NEEDED.
4. USE REQUIRED LENGTH OF ANCHOR SPOOL TO INSTALL VALVE BOX BEHIND NEW CURB.
5. INSTALL NEW STOP BOX 1'6" FROM R/W. LEAVE EXISTING VALVE BOX OPEN. USE COUPLING TO CONNECT FROM NEW STOP BOX TO EXISTING SERVICE LINE. CUT VALVE BOX OFF AT LEAST 6" BELOW SERVICE. COST IS INCIDENTAL TO WATER SERVICE TRANSFER.
6. 1" WATER SERVICE TAPS MUST BE 18" FROM ANOTHER TAP, JOINT OR PIPE FITTING. 2" WATER SERVICE TAPS MUST BE 2' FROM ANOTHER TAP, JOINT OR PIPE FITTING.

LEGEND

1 - 1" LONG SIDE SERVICE
2 - 1" SHORT SIDE SERVICE
3 - 2" SHORT SIDE SERVICE
4 - 2" SHORT SIDE SERVICE
W.S - WATER SERVICE



HORZ. 0 20 40 SCALE FEET
VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS

BOLTON & MENK

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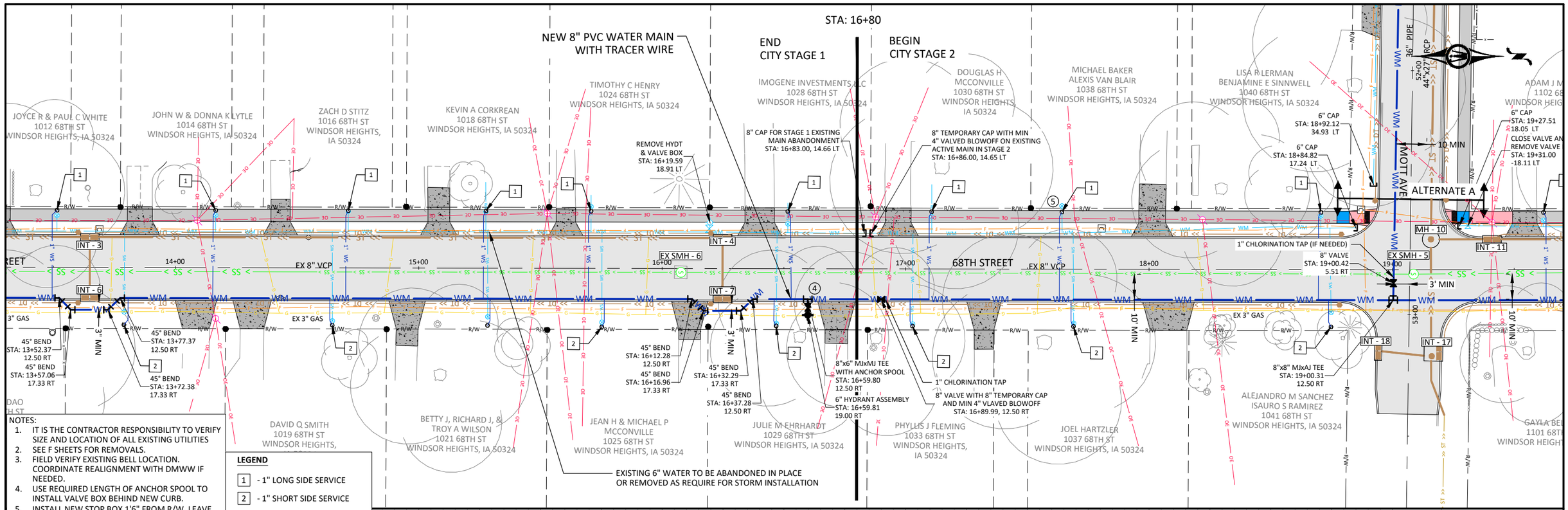
CLIENT PROJ. NO.	0A1.133739

REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
WATER MAIN PLAN & PROFILE - 68TH STREET

SHEET
MWM.04



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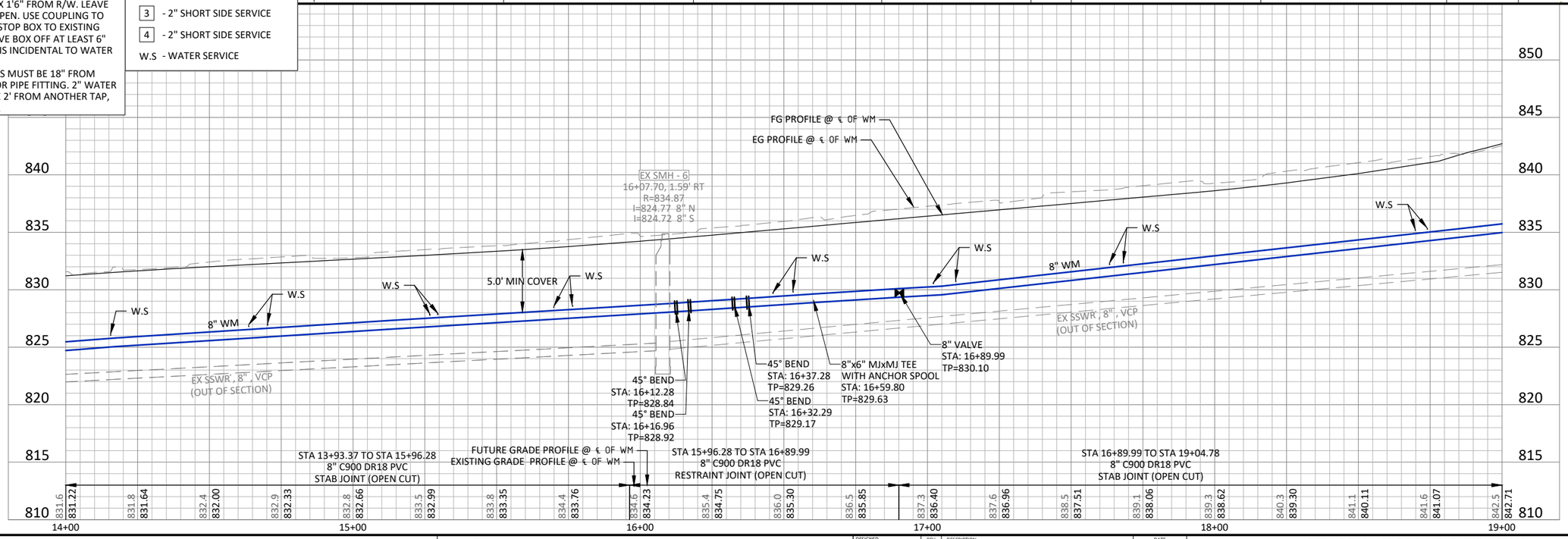
LEGEND

- [1] - 1" LONG SIDE SERVICE
- [2] - 1" SHORT SIDE SERVICE
- [3] - 2" SHORT SIDE SERVICE
- [4] - 2" SHORT SIDE SERVICE
- W.S - WATER SERVICE



HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

WATER MAIN PLAN & PROFILE - 68TH STREET

SHEET MWM.05

NEW 8" PVC WATER MAIN
WITH TRACER WIRE

68TH STREET

ALTERNATE A

MOTT AVE

36" PIPE
52+00
44"x27" RCP

10' MIN

3' MIN

10' MIN

6" CAP
STA: 18+92.12
34.93 LT

6" CAP
STA: 18+84.82
17.24 LT

1" CHLORINATION TAP (IF NEEDED)

8" VALVE
STA: 19+00.42
5.51 RT

EX SMH - 5
19+00

MH - 10

INT - 11

INT - 18

INT - 17

EX 3" GAS

8"x8" MJxAJ TEE
STA: 19+00.31
12.50 RT

53+00

LISA R LERMAN
ENJAMINE E SINNWELL
1040 68TH ST
NDSOR HEIGHTS, IA 50324

ALEJANDRO M SANCHEZ
ISAURO S RAMIREZ

ADAM J MCHENRY
1102 68TH ST
WINDSOR HEIGHTS, IA 50324

6" CAP
STA: 19+27.51
18.05 LT
CLOSE VALVE AND
REMOVE VALVE BOX
STA: 19+31.00
-18.11 LT

GAYLA BELDEN
1101 68TH ST
WINDSOR HEIGHTS, IA 50324

ARMIN HASANCEVIC
1104 68TH ST
WINDSOR HEIGHTS, IA 50324

REMOVE HYDT
& VALVE BOX
STA: 20+29.31
14.60 LT

20+00
EX 8" VCP

EX SMH - 4
21+00

6" HYDRANT ASSEMBLY
STA: 20+31.22
19.00 RT

8"x6" MJxMJ TEE
WITH ANCHOR SPOOL
STA: 20+31.22
12.50 RT

EX 3" GAS

ALEX KING
1105 68TH ST
WINDSOR HEIGHTS, IA 50324

MARIELA D & CHARLIE A
CHAPA FAREZ
1106 68TH ST
WINDSOR HEIGHTS, IA 50324

PREMIER HOMES LLC
1107 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHAEL L MESSINA
ANTON V NERETIN
1110 68TH ST
WINDSOR HEIGHTS, IA 50324

EXISTING 6" WATER TO BE ABANDONED IN PLACE
OR REMOVED AS REQUIRE FOR STORM INSTALLATION

INT - 12

22+00
EX 8" VCP

ANDRE EKIS FAMILY TRUST
1111 68TH ST
WINDSOR HEIGHTS, IA 50324

RYAN A HALA
1112 68TH ST
WINDSOR HEIGHTS, IA 50324

JUDY V & RANDY D CLOUGH
1113 68TH ST
WINDSOR HEIGHTS, IA 50324

K2 HOLDINGS LLC
1120 68TH ST
WINDSOR HEIGHTS,
IA 50324

REMOVE HYDT
& VALVE BOX
STA: 22+70.76
19.89 LT

23+00

6" HYDRANT ASSEMBLY
STA: 23+24.48
19.10 RT

JACOB & ANNIKA
KINNETZ
1117 68TH ST
WINDSOR HEIGHTS,
IA 50324

8"x6" MJxMJ TEE
WITH ANCHOR SPOOL
STA: 23+24.49
12.50 RT

CLINT MCCONNELL
1124 68TH ST
WINDSOR HEIGHTS, IA 50324

BILLY, JANIS, & KYLE WATSON
1125 68TH ST
WINDSOR HEIGHTS, IA 50324

45° BEND
STA: 23+73.18
12.50 RT
45° BEND
STA: 23+80.73
20.33 RT

INT - 13

1" CHLORINATION TAP

24+00

EX SMH - 3

INT - 15

3' MIN

3' MIN

45° BEND
STA: 23+98.18
12.50 RT
45° BEND
STA: 23+90.06
20.33 RT

HEATHER L HANSEN
ERIC R BOYSEN
1128 68TH ST
WINDSOR HEIGHTS, IA 50324

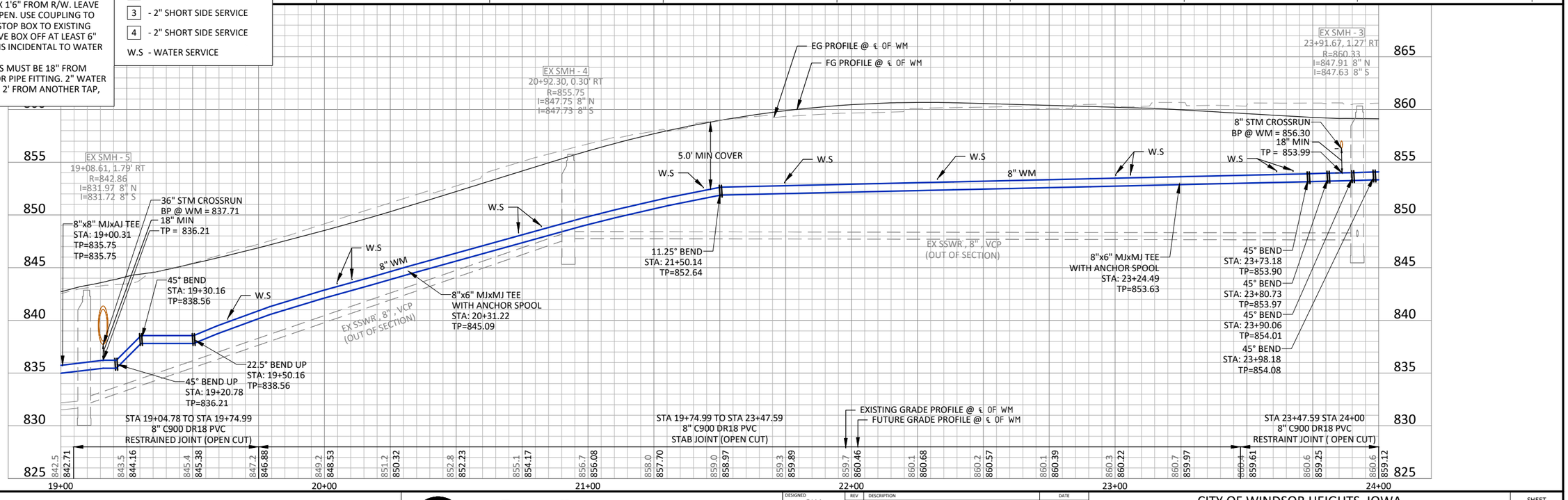
CASEY ROBERTS-MCCOMBS
JASON E ROBERTS
1129 68TH ST
WINDSOR HEIGHTS, IA 50324

NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES
2. SEE F SHEETS FOR REMOVALS.
3. FIELD VERIFY EXISTING BELL LOCATION. COORDINATE REALIGNMENT WITH DMWW IF NEEDED.
4. USE REQUIRED LENGTH OF ANCHOR SPOOL TO INSTALL VALVE BOX BEHIND NEW CURB.
5. INSTALL NEW STOP BOX 1'6" FROM R/W. LEAVE EXISTING VALVE BOX OPEN. USE COUPLING TO CONNECT FROM NEW STOP BOX TO EXISTING SERVICE LINE. CUT VALVE BOX OFF AT LEAST 6" BELOW SERVICE. COST IS INCIDENTAL TO WATER SERVICE TRANSFER.
6. 1" WATER SERVICE TAPS MUST BE 18" FROM ANOTHER TAP, JOINT OR PIPE FITTING. 2" WATER SERVICE TAPS MUST BE 2' FROM ANOTHER TAP, JOINT OR PIPE FITTING.

LEGEND

1 - 1" LONG SIDE SERVICE
2 - 1" SHORT SIDE SERVICE
3 - 2" SHORT SIDE SERVICE
4 - 2" SHORT SIDE SERVICE
W.S - WATER SERVICE



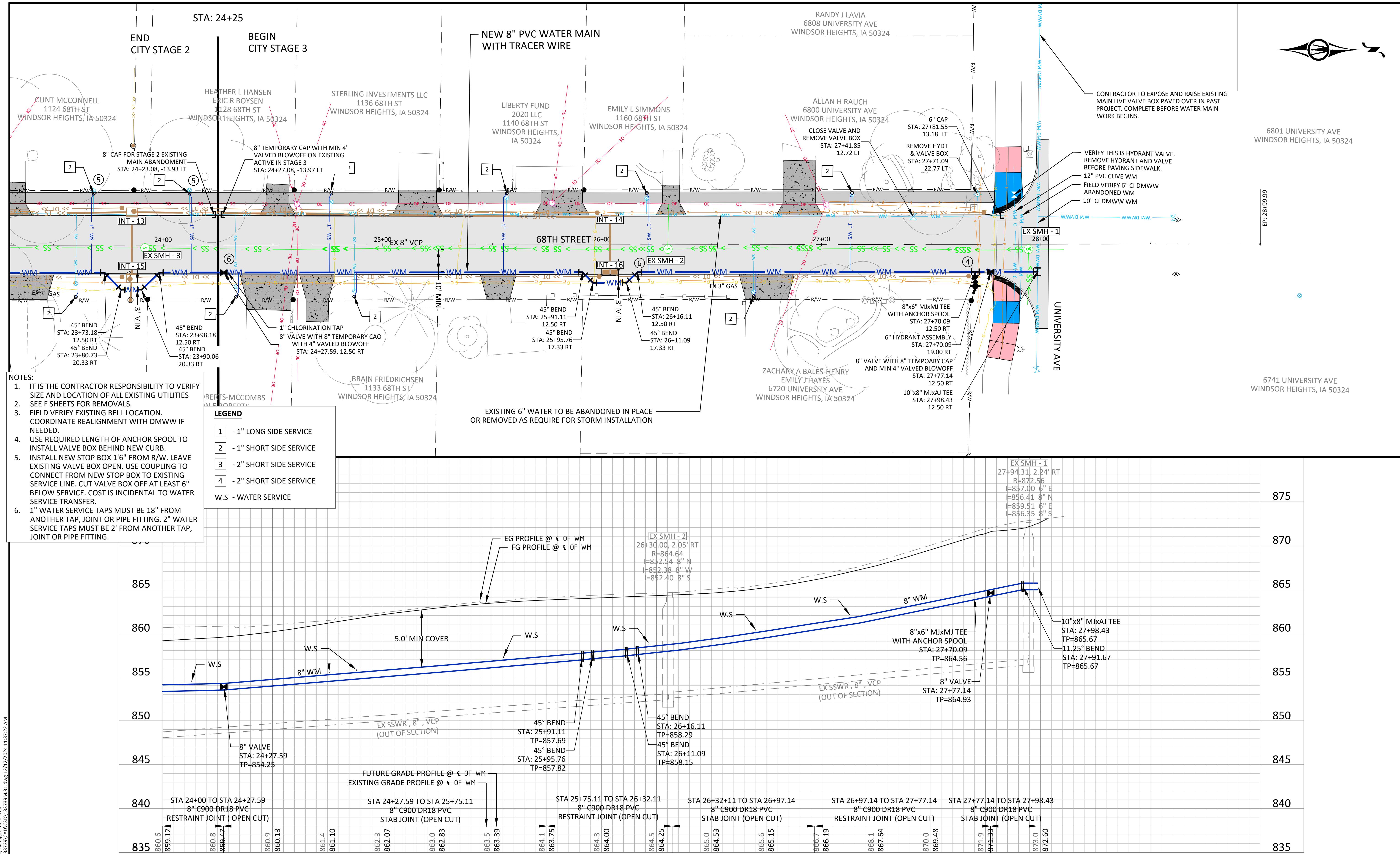
HORZ. SCALE 0 20 40 FEET
VERT. SCALE 0 5 10 FEET

BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
FAM			
DRAWN			
PL			
CHECKED			
JLE			
CLIENT PROJ. NO.			
0A1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
WATER MAIN PLAN & PROFILE - 68TH STREET

SHEET
MWM.06



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- 3 - 2" SHORT SIDE SERVICE
- 4 - 2" SHORT SIDE SERVICE
- W.S - WATER SERVICE

HORZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

WINDSOR HEIGHTS the heart of it all

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REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

WATERMAIN PLAN - 68TH ST

SHEET MWM.07

NEW 8" PVC WATER MAIN
WITH TRACER WIRE

8" TEMPORARY CAP W/4" VALVED BLOWOFF FOR TESTING NEW MAIN ON MOTT
STA: 49+99.76, 5.49 RT

REMOVE EXISTING 8" BEND AND CONNECT NEW MAIN WITH 8" SOLID SLEEVE TO EXISTING 8" PVC MAIN.
STA: 49+96.47
5.48 RT

6" CAP
STA: 50+05.98
15.06 RT

6" CAP
STA: 52+46.97
15.38 RT

8"x8" MJxAJ TEE
STA: 19+00.31
12.50 RT

8" VALVE
STA: 19+00.42
5.51 RT

1" CHLORINATION TAP (IF NEEDED)

EX 3" GAS

INT - 8
INT - 11
INT - 17
INT - 18
MH - 9
MH - 10
EX SMH - 5

44"x27" ARCH
36" PIPE
10' MIN

BASE BID

69TH STREET
68TH ST
MOTT AVE

BP: 49+00.00
EP: 53+81.71

49+00
50+00
51+00
52+00
53+00
19+00

1103 69TH ST
WINDSOR HEIGHTS, IA 50324

ADAM J MCHENRY
1102 68TH ST
WINDSOR HEIGHTS, IA 50324

GAYLA BELDEN
1101 68TH ST
WINDSOR HEIGHTS, IA 50324

1047 69TH ST
WINDSOR HEIGHTS, IA 50324

LISA RLERMAN
BENJAMINE E SINNWELL
1040 68TH ST
WINDSOR HEIGHTS, IA 50324

ALEJANDRO M SANCHEZ
ISAURO S RAMIREZ
1041 68TH ST
WINDSOR HEIGHTS, IA 50324

NOTES:
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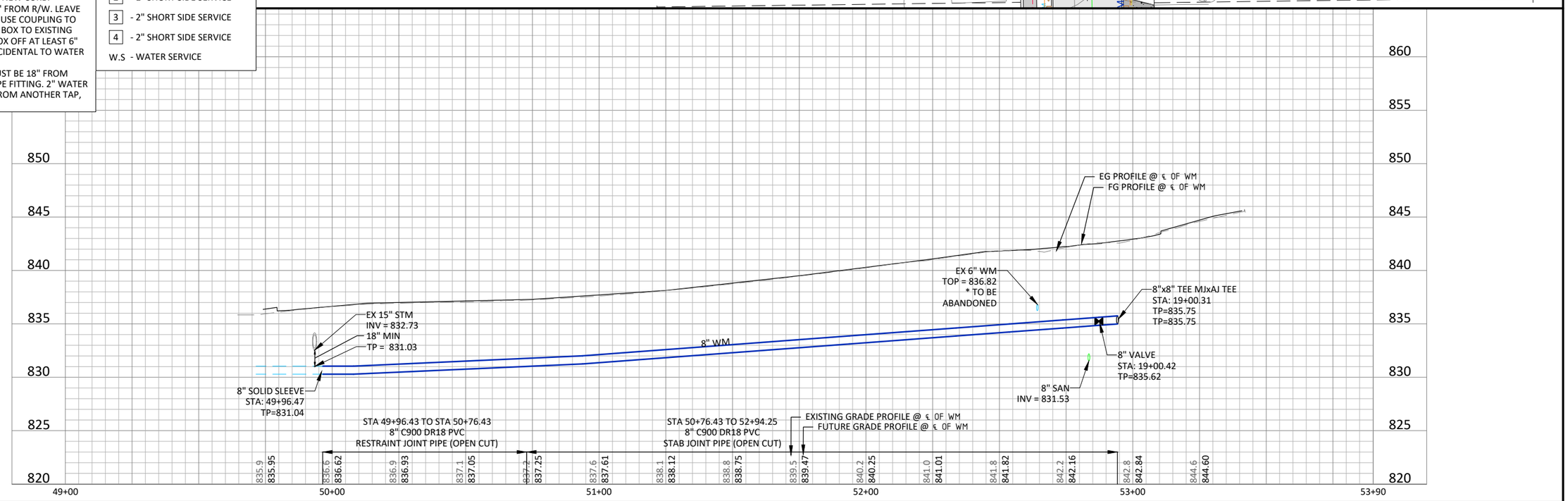
3 - 2" SHORT SIDE SERVICE
4 - 2" SHORT SIDE SERVICE
W.S - WATER SERVICE



HORZ. 0 20 40 SCALE FEET
VERT. 0 5 10 SCALE FEET

WINDSOR HEIGHTS

BOLTON & MENK

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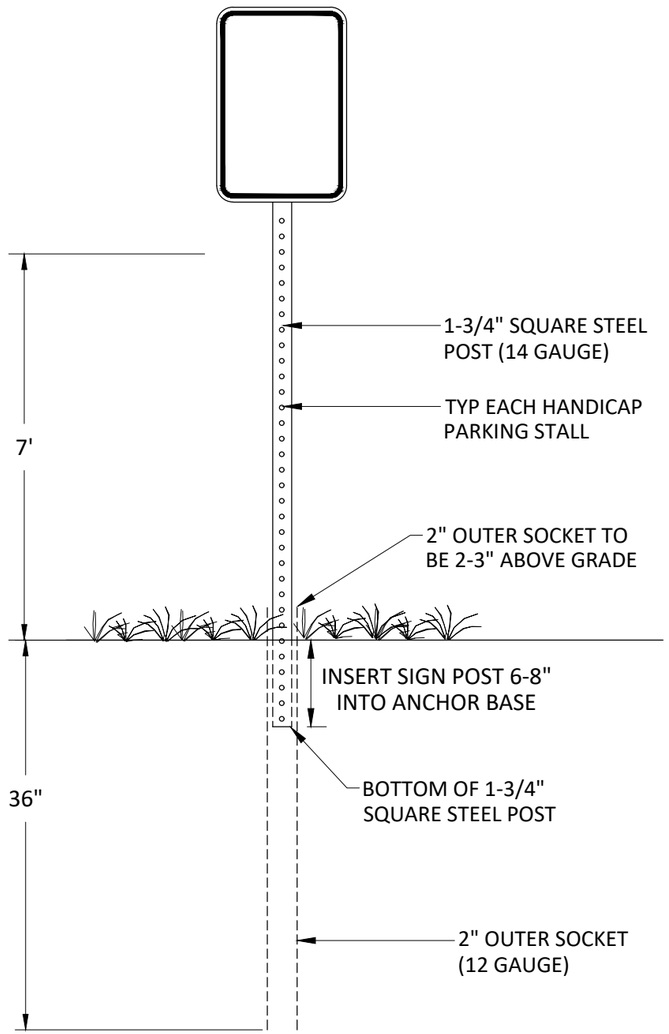
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
WATERMAIN PLAN - MOTT AVE

SHEET
MWM.08



1 SIGN POST INSTALLATION DETAILS

SIGNS TABULATION					
ITEM NO.	STREET	STATION	SIGN TYPE	SIGN SIZE	COMMENT
1	68TH ST	10+27.87	R1-1	30X30	NEW WITH POST
2	68TH ST	14+20.35	R8-3	24X24	NEW WITH POST
3	68TH ST	18+20.37	R8-3	24X24	NEW WITH POST
4	68TH ST	19+48.59	R7-1	12X18	SALVAGE RE-INSTALL
5	68TH ST	21+33.60	R7-1	12X18	SALVAGE RE-INSTALL
6	68TH ST	22+19.89	R8-3	24X24	NEW WITH POST
7	68TH ST	25+77.20	R8-3	24X24	NEW WITH POST
8	68TH ST	27+67.61	R1-1	30X30	SALVAGE RE-INSTALL
9	MOTT AVE	49+83.90	R1-1	30X30	SALVAGE RE-INSTALL
10	MOTT AVE	52+22.90	R7-11	12X18	SALVAGE RE-INSTALL
11	MOTT AVE	52+52.90	R1-1 R8-3	30X30 24X24	SALVAGE RE-INSTALL
12	MOTT AVE	53+08.54	R1-1	30X30	SALVAGE RE-INSTALL

WINDSOR HEIGHTS
THE HEART OF IT ALL

BOLTON & MENK

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DES MOINES, IA 50309
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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIGNING & STRIPPING DETAILS AND TABULATION

SHEET
N.01

GUNDAR R & KATHLEEN R LAMBERTS
1002 68TH ST
WINDSOR HEIGHTS, IA 50324

ROCHELLE R LANGFITT
1004 68TH ST
WINDSOR HEIGHTS, IA 50324

JAMES M & MARY L COOPER
1006 68TH ST
WINDSOR HEIGHTS, IA 50324

JONATHAN T WESTBY
1008 68TH ST
WINDSOR HEIGHTS, IA 50324

WJ PROPERTIES LLC
1010 68TH ST
WINDSOR HEIGHTS, IA 50324

JOYCE R & PAUL C WHITE
1012 68TH ST
WINDSOR HEIGHTS, IA 50324

JOHN W & DONNA K LYTLE
1014 68TH ST
WINDSOR HEIGHTS, IA 50324

R1-1
(30 X 30)

STOP

STA:10+27.87
16.25' LT

STA:14+20.35
15.00' RT

68TH STREET

9+00 10+00 11+00 12+00 13+00 14+00

6750 SCHOOL ST
WINDSOR HEIGHTS, IA 50324

SCHOOL STREET

MICHELLE J COOK
1003 68TH ST
WINDSOR HEIGHTS, IA 50324

PHILLIP N UHDE
1005 68TH ST
WINDSOR HEIGHTS, IA 50324

LORRAINE D BYRD
1007 68TH ST
WINDSOR HEIGHTS, IA 50324

CHACE CHAMBERS
PAULINA SECORY
1009 68TH ST
WINDSOR HEIGHTS, IA 50324

TUAN A DAO
1013 68TH ST
WINDSOR HEIGHTS, IA 50324

AMELA & HUSEIN SABIC
1015 68TH ST
WINDSOR HEIGHTS, IA 50324

R8-3
(24 X 24)

SEE N.02
MATCHLINE

DAVID
1019
WINDSO
IA

JOYCE R & PAUL C WHITE
1012 68TH ST
WINDSOR HEIGHTS, IA 50324

JOHN W & DONNA K LYTLE
1014 68TH ST
WINDSOR HEIGHTS, IA 50324

ZACH D STITZ
1016 68TH ST
WINDSOR HEIGHTS, IA 50324

KEVIN A CORKREAN
1018 68TH ST
WINDSOR HEIGHTS, IA 50324

TIMOTHY C HENRY
1024 68TH ST
WINDSOR HEIGHTS, IA 50324

IMOGENE INVESTMENTS LLC
1028 68TH ST
WINDSOR HEIGHTS, IA 50324

DOUGLAS H MCCONVILLE
1030 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHAEL BAKER
ALEXIS VAN BLAIR
1038 68TH ST
WINDSOR HEIGHTS, IA 50324

LISA R LERMAN
BENJAMINE E SINNWELL
1040 68TH ST
WINDSOR HEIGHTS, IA 50324

R8-3
(24 X 24)

ALTERNATE A

SEE N.04
MATCHLINE

STA:18+20.37
15.00' RT

PI: 52+81.71

14+00 15+00 16+00 17+00 18+00 19+00

68TH STREET

MOTT AVENUE

TUAN A DAO
1013 68TH ST
DSOR HEIGHTS, IA 50324

AMELA & HUSEIN SABIC
1015 68TH ST
WINDSOR HEIGHTS, IA 50324

DAVID Q SMITH
1019 68TH ST
WINDSOR HEIGHTS,
IA 50324

BETTY J, RICHARD J, &
TROY A WILSON
1021 68TH ST
WINDSOR HEIGHTS, IA 50324

JEAN H & MICHAEL P
MCCONVILLE
1025 68TH ST
WINDSOR HEIGHTS, IA 50324

JULIE M EHRHARDT
1029 68TH ST
WINDSOR HEIGHTS, IA 50324

PHYLLIS J FLEMING
1033 68TH ST
WINDSOR HEIGHTS,
IA 50324

JOEL HARTZLER
1037 68TH ST
WINDSOR HEIGHTS, IA 50324

ALEJANDRO M SANCHEZ
ISAURO S RAMIREZ
1041 68TH ST
WINDSOR HEIGHTS, IA 50324

SEE N.03
MATCHLINE

WI

HORZ. 0 20 40
SCALE FEET

WINDSOR HEIGHTS

BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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DRAWN	PL
CHECKED	JLE
CLIENT PROJ. NO.	OA1.133739

REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIGNING & STRIPPING PLAN

SHEET
N.02

ALTERNATE A

SEE N.04 MATCHLINE

68TH STREET

MOTT AVENUE

MATCH LINE SEE N.02

MATCH LINE SEE N.03

SEE N.03 MATCHLINE

UNIVERSITY AVENUE

6801 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

6741 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

LISA R LERMAN
AMINE E SINNWELL
1040 68TH ST
DR HEIGHTS, IA 50324

ADAM J MCHENRY
1102 68TH ST
WINDSOR HEIGHTS, IA 50324

ARMIN HASANCEVIC
1104 68TH ST
WINDSOR HEIGHTS, IA 50324

MARIELA D & CHARLIE A
CHAPA FAREZ
1106 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHAEL L MESSINA
ANTON V NERETIN
1110 68TH ST
WINDSOR HEIGHTS, IA 50324

RYAN A HALA
1112 68TH ST
WINDSOR HEIGHTS, IA 50324

K2 HOLDINGS LLC
1120 68TH ST
WINDSOR HEIGHTS,
IA 50324

CLINT MCCONNELL
1124 68TH ST
WINDSOR HEIGHTS, IA 50324

HEATHER L HANSEN
ERIC R BOYSEN
1128 68TH ST
WINDSOR HEIGHTS, IA 50324

ALEJANDRO M SANCHEZ
ISAURO S RAMIREZ
1041 68TH ST
WINDSOR HEIGHTS, IA 50324

GAYLA BELDEN
1101 68TH ST
WINDSOR HEIGHTS, IA 50324

ALEX KING
1105 68TH ST
WINDSOR HEIGHTS, IA 50324

PREMIER HOMES LLC
1107 68TH ST
WINDSOR HEIGHTS, IA 50324

ANDRE EKIS FAMILY TRUST
1111 68TH ST
WINDSOR HEIGHTS, IA 50324

JUDY V & RANDY D CLOUGH
1113 68TH ST
WINDSOR HEIGHTS, IA 50324

JACOB & ANNIKA
KINNETZ
1117 68TH ST
WINDSOR HEIGHTS,
IA 50324

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JASON E ROBERTS
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WINDSOR HEIGHTS, IA 50324

CLINT MCCONNELL
1124 68TH ST
WINDSOR HEIGHTS, IA 50324

HEATHER L HANSEN
ERIC R BOYSEN
1128 68TH ST
WINDSOR HEIGHTS, IA 50324

STERLING INVESTMENTS LLC
1136 68TH ST
WINDSOR HEIGHTS, IA 50324

LIBERTY FUND
2020 LLC
1140 68TH ST
WINDSOR HEIGHTS,
IA 50324

EMILY L SIMMONS
1160 68TH ST
WINDSOR HEIGHTS, IA 50324

ALLAN H RAUCH
6800 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

LLY, JANIS, & KYLE WATSON
1125 68TH ST
INDSOR HEIGHTS, IA 50324

CASEY ROBERTS-MCCOMBS
JASON E ROBERTS
1129 68TH ST
WINDSOR HEIGHTS, IA 50324

BRAIN FRIEDRICHSEN
1133 68TH ST
WINDSOR HEIGHTS, IA 50324

ZACHARY A BALES-HENRY
EMILY J HAYES
6720 UNIVERSITY AVE
WINDSOR HEIGHTS, IA 50324

R8-3 (24 X 24)

R7-1 (12 X 18) NO PARKING BETWEEN SIGNS

R1-1 (30 X 30) STOP

STA: 53+08.54
16.50, LT

STA: 19+48.59
15.00, RT

STA: 21+33.60
15.00, RT

STA: 22+19.89
15.00, RT

STA: 25+77.20
15.00, RT

STA: 27+67.61
18.00, RT

STA: 27+84.77
11.35, LT

STA: 27+84.49
10.65, RT

CBW6

EP: 28+99.99

PI: 52+81.71

PI: 19+07.09

19+00 20+00 21+00 22+00 23+00 24+00 24+00 25+00 26+00 27+00 28+00

525+00 535+00

HORZ. SCALE 0 20 40 FEET

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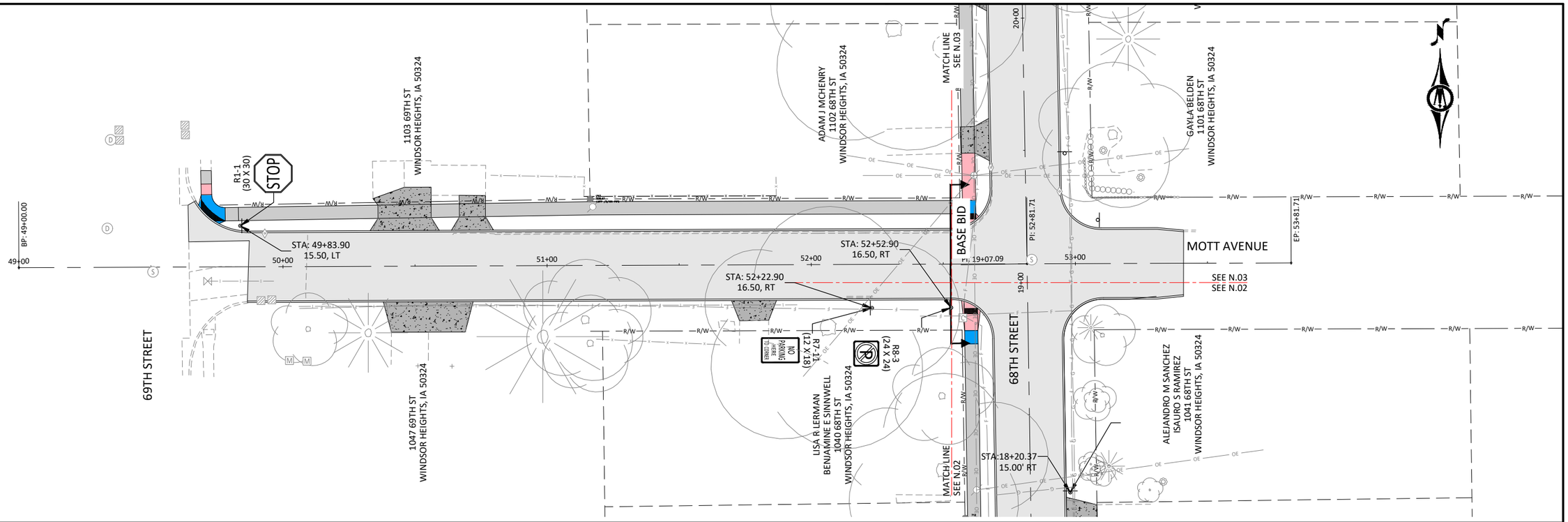
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIGNING & STRIPPING PLAN

SHEET N.03



HORZ. SCALE 0 20 40 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIGNING & STRIPPING PLAN

SHEET N.04

STORM WATER POLLUTION PREVENTION PLAN

THIS PROJECT IS REGULATED BY THE REQUIREMENTS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. 2 OR AN IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL STORM WATER PERMIT. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF THIS PERMIT AND THE POLLUTION PREVENTION PLAN (PPP).

THIS BASE PPP INCLUDES INFORMATION ON ROLES AND RESPONSIBILITIES, PROJECT SITE DESCRIPTION, CONTROLS, MAINTENANCE PROCEDURES, INSPECTION REQUIREMENTS, NON-STORM WATER CONTROLS, POTENTIAL SOURCES OF OFF RIGHT-OF-WAY POLLUTION, AND DEFINITIONS. THIS PLAN REFERENCES OTHER DOCUMENTS RATHER THAN REPEATING THE INFORMATION CONTAINED IN THE DOCUMENTS. A COPY OF THIS BASE POLLUTION PREVENTION PLAN, AMENDED AS NEEDED DURING CONSTRUCTION, WILL BE READILY AVAILABLE FOR REVIEW.

ALL CONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT CONTROLS POLLUTANTS, MINIMIZES EROSION, AND PREVENTS SEDIMENTS FROM ENTERING WATERS OF THE STATE AND LEAVING THE HIGHWAY RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE PPP FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP.

I.. ROLES AND RESPONSIBILITIES

A. DESIGNER:

1. PREPARES BASE PPP INCLUDED IN THE PROJECT PLAN.
2. PREPARES NOTICE OF INTENT (NOI) SUBMITTED TO IOWA DNR.
3. IS SIGNATURE AUTHORITY ON THE BASE PPP. IF CONSULTANT DESIGNED, SIGNATURE FROM CONTRACTING AUTHORITY IS ALSO REQUIRED.

B. CONTRACTOR:

1. SIGNS A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP. ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
2. DESIGNATES A WATER POLLUTION CONTROL MANAGER (WPCM), WHO HAS THE DUTIES AND RESPONSIBILITIES AS DEFINED IN SECTION 2602 OF THE STANDARD SPECIFICATIONS.
3. SUBMITS AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND ECIP UPDATES ACCORDING TO SECTION 2602 OF THE STANDARD SPECIFICATIONS.
4. INSTALLS AND MAINTAINS APPROPRIATE CONTROLS. THIS WORK MAY BE SUBCONTRACTED AS DOCUMENTED THROUGH SUBCONTRACTOR REQUEST FORM (FORM 830231).
5. SUPERVISES AND IMPLEMENTS GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
6. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH INSPECTION STAFF. WHEN CONTRACTOR IS NOT MOBILIZED ON SITE, CONTRACTOR MAY DELEGATE THIS RESPONSIBILITY TO A TRAINED OR CERTIFIED SUBCONTRACTOR. CONTRACTING AUTHORITY ALSO MAY WAIVE JOINT INSPECTION REQUIREMENT DURING WINTER SHUTDOWN. IN BOTH CIRCUMSTANCES, WPCM (OR TRAINED OR CERTIFIED DELEGATE FROM THE CONTRACTOR) IS STILL RESPONSIBLE TO REVIEW AND SIGN INSPECTION REPORTS.
7. COMPLIES WITH TRAINING AND CERTIFICATION REQUIREMENTS OF SECTION 2602 OF THE STANDARD SPECIFICATIONS.
8. SUBMITS AMENDED PPP SITE MAP ACCORDING TO SECTION 2602 OF THE STANDARD SPECIFICATIONS.

C. SUBCONTRACTORS:

1. SIGN A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP IF: RESPONSIBLE FOR SEDIMENT OR EROSION CONTROLS; INVOLVED IN LAND DISTURBING ACTIVITIES; OR PERFORMING WORK THAT IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP. SUBCONTRACTED WORK ITEMS ARE IDENTIFIED IN SUBCONTRACTOR REQUEST FORMS (FORM 830231). ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
2. IMPLEMENT GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.

D. RCE/PROJECT ENGINEER:

1. IS PROJECT STORM WATER MANAGE.
2. TAKES ACTIONS NECESSARY TO ENSURE COMPLIANCE WITH STORM WATER REQUIREMENTS INCLUDING, WHERE APPROPRIATE, ISSUING STOP WORK ORDERS, AND DIRECTING ADDITIONAL INSPECTIONS AT CONSTRUCTION PROJECT SITES THAT ARE EXPERIENCING PROBLEMS WITH ACHIEVING PERMIT COMPLIANCE.
3. ORDERS THE TAKING OF MEASURES TO CEASE, CORRECT, PREVENT, OR MINIMIZE THE CONSEQUENCES OF NON-COMPLIANCE WITH THE STORM WATER REQUIREMENTS OF THE APPLICABLE PERMIT.
4. SUPERVISES ALL WORK NECESSARY TO MEET STORM WATER REQUIREMENTS AT THE PROJECT, INCLUDING WORK PERFORMED BY CONTRACTORS AND SUBCONTRACTORS.
5. REQUIRES EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS TO TAKE APPROPRIATE RESPONSIVE ACTION TO COMPLY WITH STORM WATER REQUIREMENTS, INCLUDING REQUIRING ANY SUCH PERSON TO CEASE OR CORRECT A VIOLATION OF STORM WATER REQUIREMENTS, AND TO ORDER OR RECOMMEND SUCH OTHER ACTIONS AS NECESSARY TO MEET STORM WATER REQUIREMENTS.
6. IS FAMILIAR WITH THE PROJECT PPP AND STORM WATER SITE MAP.
7. IS THE POINT OF CONTACT FOR THE PROJECT FOR REGULATORY OFFICIALS, INSPECTOR, CONTRACTORS, AND SUBCONTRACTORS REGARDING STORM WATER REQUIREMENTS.
8. IS SIGNATURE AUTHORITY ON NOTICE OF DISCONTINUATION.
9. MAINTAINS AN UP-TO-DATE RECORD OF CONTRACTORS, SUBCONTRACTORS, AND SUBCONTRACTED WORK ITEMS THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
10. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.

E. INSPECTOR:

1. UPDATES PPP THROUGH FIELD BOOK ENTRIES AND STORM WATER SITE INSPECTION REPORTS IF THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS FROM THE PROJECT.
2. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
3. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH THE CONTRACTOR/SUBCONTRACTOR.
4. COMPLETES AN INSPECTION REPORT AFTER EACH INSPECTION.
5. IS SIGNATURE AUTHORITY ON STORM WATER INSPECTION REPORTS.

II.. PROJECT SITE DESCRIPTION

A. THIS POLLUTION PREVENTION PLAN (PPP) IS FOR THE RECONSTRUCTION OF 3 BLOCK OF RESIDENTAL STREETS.

B. THIS PPP COVERS APPROXIMATELY *2.75* ACRES WITH AN ESTIMATED *2.08* ACRES BEING DISTURBED. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS *2.08* ACRES DISTURBED.

C. THE PPP IS LOCATED IN AN AREA OF 1 SOIL ASSOCIATIONS, TERRIL - CLARION. THE ESTIMATED WEIGHTED AVERAGE RUNOFF COEFFICIENT NUMBER FOR THIS PPP AFTER COMPLETION WILL BE *0.64*.

D. STORM WATER SITE MAP - MULTIPLE SOURCES OF INFORMATION COMPRISE THE BASE STORM WATER SITE MAP INCLUDING:

1. DRAINAGE PATTERNS - PLAN AND PROFILE SHEETS AND EROSION SHEETS (R-SHEET).
2. PROPOSED SLOPES - CROSS SECTIONS.
3. AREAS OF SOIL DISTURBANCE - EROSION SHEETS (R-SHEETS).
4. LOCATION OF STRUCTURAL CONTROLS - IN R- SHEETS.
5. LOCATIONS OF NON-STRUCTURAL CONTROLS - IN R-SHEETS.
6. LOCATIONS OF STABILIZATION PRACTICES - GENERALLY WITHIN CONSTRUCTION LIMITS SHOWN ON EROSION CONTROL SHEETS (R-SHEETS).
7. SURFACE WATERS (INCLUDING WETLANDS) - PROJECT LOCATION MAP AND PLAN AND PROFILE SHEETS.
8. LOCATIONS WHERE STORM WATER IS DISCHARGED - M1 STORM WATER SHEETS.

E. THE BASE STORM WATER SITE MAP IS AMENDED BY CONTRACT MODIFICATIONS AND PROGRESS PAYMENTS (FIELD BOOK ENTRIES) OF COMPLETED EROSION CONTROL WORK. ALSO, DUE TO PROJECT PHASING, EROSION AND SEDIMENT CONTROLS SHOWN ON PROJECT PLANS MAY NOT BE INSTALLED UNTIL NEEDED, BASED ON SITE CONDITIONS. FOR EXAMPLE, SILT FENCE DITCH CHECKS WILL TYPICALLY NOT BE INSTALLED UNTIL THE DITCH HAS BEEN INSTALLED. INSTALLED LOCATIONS MAY ALSO BE MODIFIED FROM TABULATION LOCATIONS BY FIELD STAFF. INSTALLED LOCATIONS WILL BE DOCUMENTED BY FIELD BOOK ENTRIES AND AMENDED PPP SITE MAP.

F. RUNOFF FROM THIS WORK WILL FLOW INTO CITY STORM SEWER NETWORK.

III.. CONTROLS

A. THE CONTRACTOR'S ECIP SPECIFIED IN ARTICLE 2602.03 OF THE STANDARD SPECIFICATIONS FOR ACCOMPLISHMENT OF STORM WATER CONTROLS SHOULD CLEARLY DESCRIBE THE INTENDED SEQUENCE OF MAJOR ACTIVITIES, AND FOR EACH ACTIVITY DEFINE THE CONTROL MEASURE AND THE TIMING DURING THE CONSTRUCTION PROCESS THAT THE MEASURE WILL BE IMPLEMENTED.

B. PRESERVE VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.

C. SECTIONS 2601 AND 2602 OF THE STANDARD SPECIFICATIONS DEFINE REQUIREMENTS TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES. ACTUAL QUANTITIES USED AND INSTALLED LOCATIONS MAY VARY FROM THE BASE PPP AND AMENDMENT OF THE PLAN WILL BE DOCUMENTED VIA FIELD BOOK ENTRIES, AMENDED PPP SITE MAP, OR BY CONTRACT MODIFICATION. ADDITIONAL EROSION AND SEDIMENT CONTROL ITEMS MAY BE REQUIRED AS DETERMINED BY THE INSPECTOR AND/OR CONTRACTOR DURING STORM WATER SITE INSPECTIONS. IF THE WORK INVOLVED IS NOT APPLICABLE TO ANY CONTRACT ITEMS, THE WORK WILL BE PAID FOR ACCORDING TO ARTICLE 1109.03 PARAGRAPH B OF THE STANDARD SPECIFICATIONS.

1. EROSION AND SEDIMENT CONTROLS
   a. STABILIZATION PRACTICES
      1) SITE PLANS WILL ENSURE THAT EXISTING VEGETATION OR NATURAL BUFFERS ARE PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED.
      2) INITIALIZE STABILIZATION OF DISTURBED AREAS IMMEDIATELY AFTER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE:
         a) PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR
         b) TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
      3) STAGED PERMANENT AND/OR TEMPORARY STABILIZING SEEDING AND MULCHING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE COMPLETED. INCOMPLETE AREAS SHALL BE STABILIZED ACCORDING TO PARAGRAPH III, C, 1, A, 2, B ABOVE.
      4) PERMANENT AND TEMPORARY STABILIZATION PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES (100-0A, 100-1A, OR 100-1C) AND ESTIMATE REFERENCE INFORMATION (100-4A) LOCATED IN THE C SHEETS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION (105-4) IN THE C SHEETS.
      5) PRESERVATION OF EXISTING VEGETATION WITHIN RIGHT-OF-WAY OR EASEMENTS WILL ACT AS VEGETATIVE BUFFER STRIPS.
      6) PRESERVATION OF TOPSOIL: BID ITEMS TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES (100-0A, 100-1A, OR 100-1C) AND ESTIMATE REFERENCE INFORMATION (100-4A) LOCATED IN THE C SHEETS. ADDITIONAL INFORMATION MAY BE FOUND IN TABULATIONS IN THE C OR T SHEETS OR IS REFERENCED IN SECTION 2105 OF STANDARD SPECIFICATIONS.
   b. STRUCTURAL PRACTICES
      1) STRUCTURAL PRACTICES WILL BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS AND DETAIN OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. ADDITIONALLY, STRUCTURAL PRACTICES MAY INCLUDE: SILT BASINS THAT PROVIDE 3600 CUBIC FEET OF STORAGE PER ACRE DRAINED OR EQUIVALENT SEDIMENT CONTROLS, OUTLET STRUCTURES THAT WITHDRAW WATER FROM SURFACE WHEN DISCHARGING BASINS, AND CONTROLS TO DIRECT STORM WATER TO VEGETATED AREAS.
      2) STRUCTURAL PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES (100-0A, 100-1A, OR 100-1C) AND ESTIMATE REFERENCE INFORMATION (100-4A) LOCATED IN THE C SHEETS, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE DEVICES TO BE USED ON THIS PROJECT CAN BE FOUND IN THE B SHEETS OR ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION (105-4) LOCATED IN THE C SHEETS.
   c. STORM WATER MANAGEMENT

MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THIS MAY INCLUDE VELOCITY DISSIPATION DEVICES AT DISCHARGE LOCATIONS AND ALONG LENGTH OF OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSION VELOCITY FLOW FROM STRUCTURE TO WATER COURSE. IF INCLUDED WITH THIS PROJECT, THESE ITEMS ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES (100-0A, 100-1A, OR 100-1C) AND ESTIMATE REFERENCE INFORMATION (100-4A) LOCATED IN THE C SHEETS, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION (105-4) IN THE C SHEETS. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SWWP GENERAL NOTE

SHEET
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2. OTHER CONTROLS

CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTES SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENTAL LAWS, RULES AND REGULATIONS, THE MORE RESTRICTIVE APPLICABLE LAWS, RULES OR REGULATIONS SHALL APPLY.

a. VEHICLE ENTRANCES AND EXITS - CONSTRUCT AND MAINTAIN ENTRANCES AND EXITS TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS.

b. MATERIAL DELIVERY, STORAGE AND USE - IMPLEMENT PRACTICES TO PREVENT DISCHARGE OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE.

c. STOCKPILE MANAGEMENT - INSTALL CONTROLS TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING.

d. WASTE DISPOSAL - DO NOT DISCHARGE ANY MATERIALS, INCLUDING BUILDING MATERIALS, INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

e. SPILL PREVENTION AND CONTROL - IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES TO CONTAIN AND CLEAN UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM AND WATERS OF THE STATE.

f. CONCRETE RESIDUALS AND WASHOUT WASTES - WASTE SHALL NOT BE DISCHARGED TO A SURFACE WATER AND IS NOT ALLOWED TO ADVERSELY AFFECT A WATER OF THE STATE. DESIGNATE TEMPORARY CONCRETE WASHOUT FACILITIES FOR RINSING OUT CONCRETE TRUCKS. PROVIDE DIRECTIONS TO TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED. DESIGNATED WASHOUT AREAS SHOULD BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAINS, STREAMS OR OTHER WATER BODIES. CARE SHOULD BE TAKEN TO ENSURE THESE FACILITIES DO NOT OVERFLOW DURING STORM EVENTS.

g. CONCRETE GROOVING/GRINDING SLURRY - DO NOT DISCHARGE SLURRY TO A WATERBODY OR STORM DRAIN. SLURRY MAY BE APPLIED ON FORE SLOPES OR REMOVED FROM THE PROJECT.

h. VEHICLE AND EQUIPMENT STORAGE AND MAINTENANCE AREAS - PERFORM ON SITE FUELING AND MAINTENANCE IN ACCORDANCE WITH ALL ENVIRONMENT LAWS SUCH AS PROPER STORAGE OF ONSITE FUELS AND PROPER DISPOSAL OF USED ENGINE OIL OR OTHER FLUIDS ON SITE. EMPLOY WASHING PRACTICES THAT PREVENT CONTAMINATION OF SURFACE AND GROUND WATER FROM WASH WATER. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

i. LITTER MANAGEMENT - ENSURE EMPLOYEES PROPERLY DISPOSE OF LITTER. MINIMIZE EXPOSURE OF TRASH IF EXPOSURE TO PRECIPITATION OR STORM WATER WOULD RESULT IN A DISCHARGE OF POLLUTANTS.

j. DEWATERING - PROPERLY TREAT WATER TO REMOVE SUSPENDED SEDIMENT BEFORE IT RE-ENTERS A WATERBODY OR DISCHARGES OFF-SITE. MEASURES ARE ALSO TO BE TAKEN TO PREVENT SCOUR EROSION AT DEWATERING DISCHARGE POINT.

3. APPROVED STATE OR LOCAL PLANS

DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

IV.. MAINTENANCE PROCEDURES

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. THIS SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

V.. INSPECTION REQUIREMENTS

A. INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY'S INSPECTOR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. STORM WATER SITE INSPECTIONS WILL INCLUDE:

1. DATE OF THE INSPECTION.
2. SUMMARY OF THE SCOPE OF THE INSPECTION.
3. NAME AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION.
4. REVIEW OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN DISTURBED AREAS FOR THE EFFECTIVENESS IN PREVENTING IMPACTS TO RECEIVING WATERS.
5. MAJOR OBSERVATIONS RELATED TO THE IMPLEMENTATION OF THE PPP.
6. IDENTIFICATION OF CORRECTIVE ACTIONS REQUIRED TO MAINTAIN OR MODIFY EROSION AND SEDIMENT CONTROL MEASURES.

B. INCLUDE STORM WATER SITE INSPECTION REPORTS IN THE AMENDED PPP. INCORPORATE ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DETERMINED AS A RESULT OF THE INSPECTION. IMMEDIATELY BEGIN CORRECTIVE ACTIONS ON ALL DEFICIENCIES FOUND WITHIN 3 CALENDAR DAYS OF THE INSPECTION AND COMPLETE WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF IT IS DETERMINED THAT MAKING THE CORRECTIONS LESS THAN 72 HOURS AFTER THE INSPECTION IS IMPRACTICABLE, IT SHOULD BE DOCUMENTED WHY IT IS IMPRACTICABLE AND INDICATE AN ESTIMATED DATE BY WHICH THE CORRECTIONS WILL BE MADE.

VI.. NON-STORM WATER DISCHARGES

THIS INCLUDES SUBSURFACE DRAINS (I.E. LONGITUDINAL AND STANDARD SUBDRAINS) AND SLOPE DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF HEADWALLS OR BLOCKS, CLASS A STONE, EROSION STONE OR OTHER APPROPRIATE MATERIALS. THIS ALSO INCLUDES UNCONTAMINATED GROUNDWATER FROM DEWATERING OPERATIONS, WHICH WILL BE CONTROLLED AS DISCUSSED IN SECTION III OF THE PPP.

VII.. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

SILTS, SEDIMENT, AND OTHER FORMS OF POLLUTION MAY BE TRANSPORTED ONTO HIGHWAY RIGHT-OF-WAY (ROW) AS A RESULT OF A STORM EVENT. POTENTIAL SOURCES OF POLLUTION LOCATED OUTSIDE HIGHWAY ROW ARE BEYOND THE CONTROL OF THIS PPP. POLLUTION WITHIN HIGHWAY ROW WILL BE CONVEYED AND CONTROLLED PER THIS PPP.

VIII.. DEFINITIONS

A. BASE PPP - INITIAL POLLUTION PREVENTION PLAN.

B. AMENDED PPP - BASE PPP AMENDED DURING CONSTRUCTION. MAY INCLUDE PLAN REVISIONS OR CONTRACT MODIFICATIONS FOR NEW ITEMS, STORM WATER SITE INSPECTION REPORTS, FIELD BOOK ENTRIES MADE BY THE INSPECTOR, AMENDED PPP SITE MAP BY THE CONTRACTOR, ECIP, NOI, CO-PERMITTEE CERTIFICATIONS, AND SUBCONTRACTOR REQUEST FORMS. ITEMS AMENDING THE PPP ARE STORED ELECTRONICALLY AND ARE READILY AVAILABLE UPON REQUEST.

C. FIELD BOOK ENTRIES - THIS CONTAINS THE INSPECTOR'S DAILY DIARY AND BID ITEM POSTINGS.

D. CONTROLS - METHODS, PRACTICES, OR MEASURES TO MINIMIZE OR PREVENT EROSION, CONTROL SEDIMENTATION, CONTROL STORM WATER, OR MINIMIZE CONTAMINANTS FROM OTHER TYPES OF WASTE OR MATERIALS. ALSO CALLED BEST MANAGEMENT PRACTICES (BMPS).

E. SIGNATURE AUTHORITY - REPRESENTATIVE AUTHORIZED TO SIGN VARIOUS STORM WATER DOCUMENTS.

IX.. CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

_____
SIGNATURE

_____
PRINTED OR TYPED NAME

_____
SIGNATURE

_____
PRINTED OR TYPED NAME

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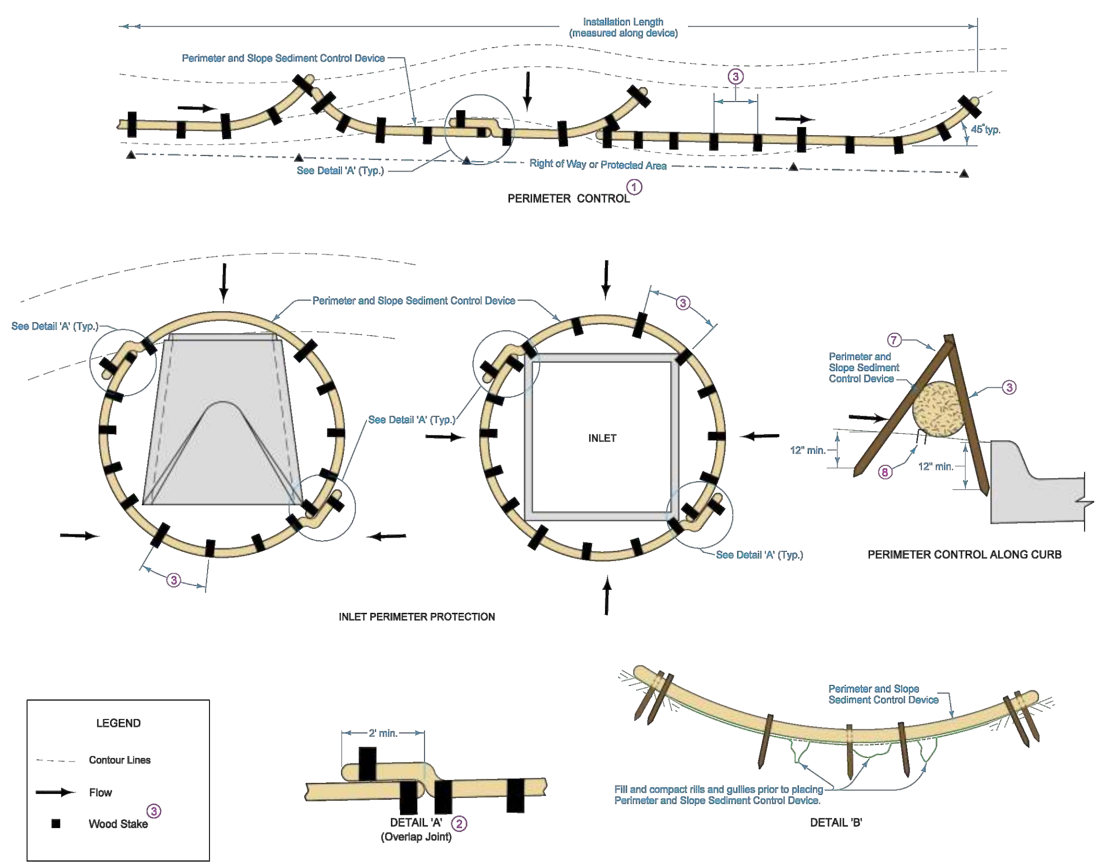
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SWWP GENERAL NOTE

SHEET
R.02

DESIGNER INFORMATION



Not intended for use in perennial or intermittent streams.

Fill and compact rills and gullies (see Detail 'B') prior to placing Perimeter and Slope Sediment Control Device. Ensure ground surface is smooth in order to provide continuous contact with Perimeter and Slope Sediment Control Device. Minor ground shaping may be required. Filling and compacting rills and gullies, and minor ground shaping, is incidental to Perimeter and Slope Sediment Control Device.

(1) Overlap joints per Detail 'A'. Turn the lower 10 feet of each run up the slope to help contain runoff. When placed such that runoff is conveyed along the device, additional run-ups and/or means may be required to reduce erosion along the device. Run-ups will be included in the installation length.

(2) Extra material required to install overlaps will not be included in the installation length.

(3) Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes.

(7) All stakes to be placed at approximatly 45 degree angle to ground.

(8) Install staples every 2 feet on upslope side.

Possible Contract Item:
Perimeter and Slope Sediment Control Device
Ditch Check Sediment Control Device

Possible Tabulation:
100-19

IOWADOT STANDARD ROAD PLAN

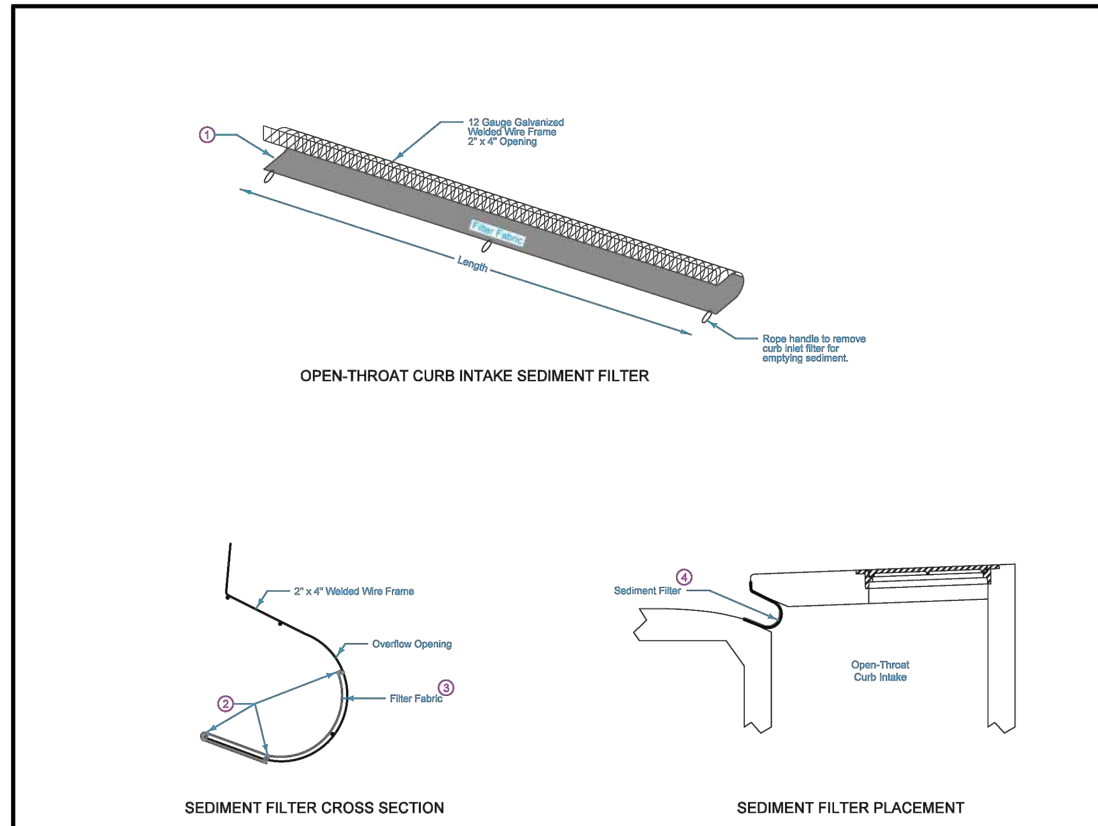
REVISION 6 10-19-21

EC-204 SHEET 1 of 3

REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES



Remove sediment filter upon stabilization of sediment sources.

(1) Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.

(2) Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.

(3) Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.

(4) Insert sediment filter to create a compression fit in the intake throat. If overflow opening is not present after inserting filter, trim filter fabric so opening is present.

Possible Contract Items:
Open-throat Curb Intake Sediment Filter
Maintenance of Open-throat Curb Intake Sediment Filter
Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:
100-36

IOWADOT STANDARD ROAD PLAN

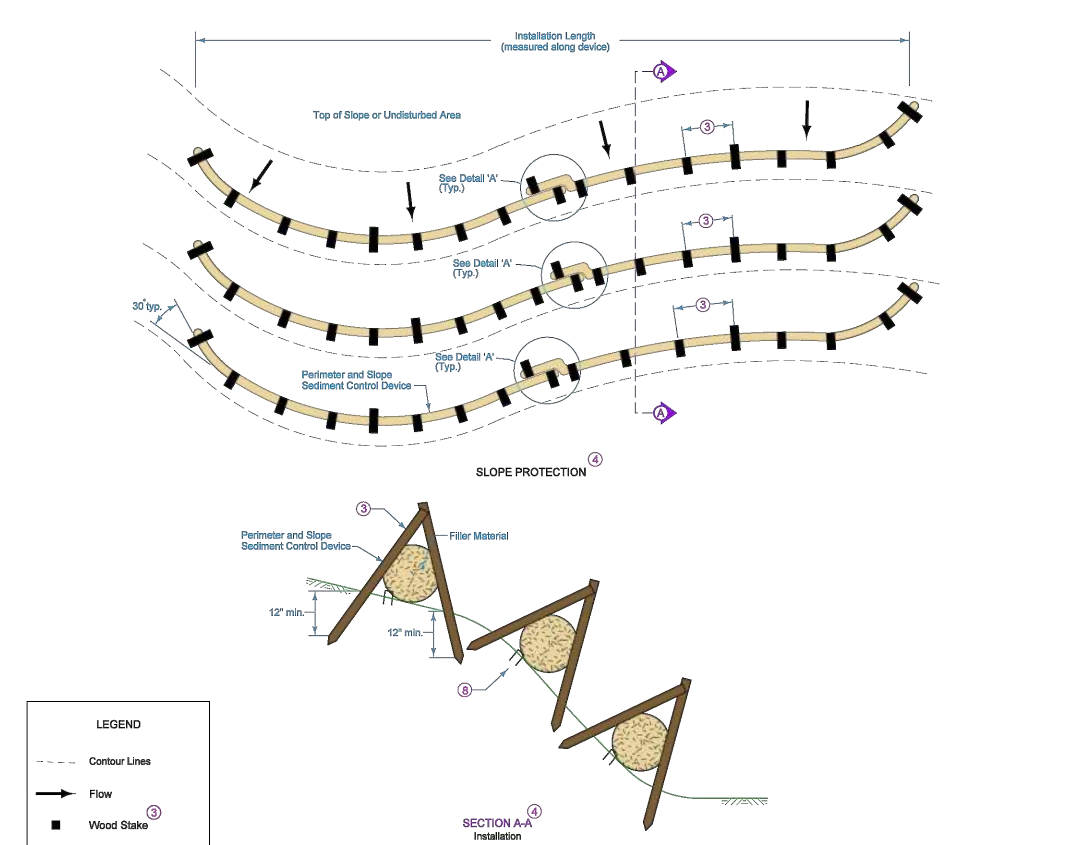
REVISION 1 10-21-20

EC-602 SHEET 1 of 1

REVISIONS: Modified circle note 4.

APPROVED BY DESIGN METHODS ENGINEER

OPEN-THROAT CURB INTAKE SEDIMENT FILTER



(3) Install downslope stakes at 4 foot maximum spacing. Upslope stakes spaced at ends and middle of device. Use minimum actual stake size 3/4" x 3/4" wood stakes. Install staples every 2 feet on upslope side.

(4) Install Slope Protection perpendicular to slope (parallel to contours). Overlap joints per Detail 'A'. Run the last 10 feet of each device up the slope to prevent flow runaround. Run-ups will be included in the installation length.

(8) Install staples every 2 feet on upslope side.

IOWADOT STANDARD ROAD PLAN

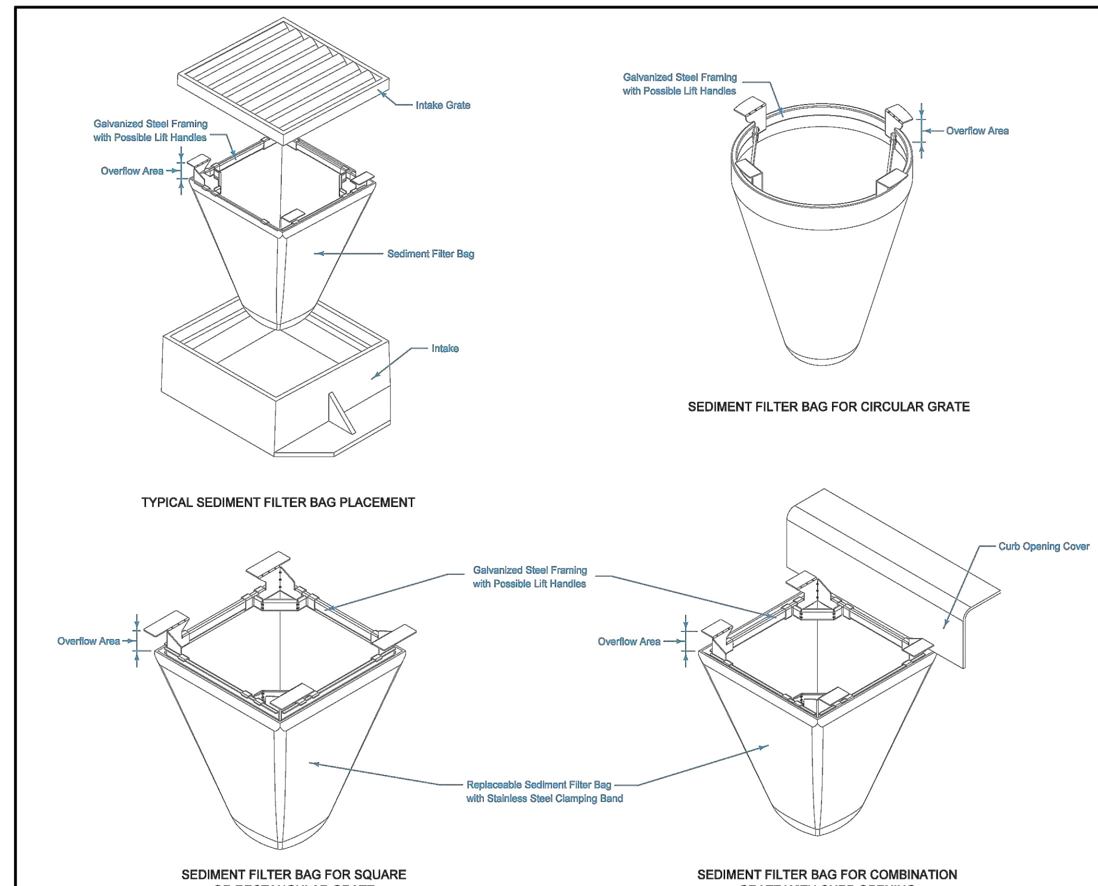
REVISION 6 10-19-21

EC-204 SHEET 2 of 3

REVISIONS: Changed labeling on Sheet 3.

APPROVED BY DESIGN METHODS ENGINEER

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES



Use sediment filter bag consisting of woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size of US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot. Sediment filter bags without steel grame and clampling bands will be allowed if overflow is provided.

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

Possible Contract Items:
Grate Intake Sediment Filter Bag
Maintenance of Grate Intake Sediment Filter Bag
Removal of Grate Intake Sediment Filter Bag

Possible Tabulation:
100-37

IOWADOT STANDARD ROAD PLAN

REVISION New 10-17-23

EC-604 SHEET 1 of 1

REVISIONS: New. Replaces Detail 570-7.

APPROVED BY DESIGN METHODS ENGINEER

GRATE INTAKE SEDIMENT FILTER BAG

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CITY OF WINDSOR HEIGHTS, IOWA

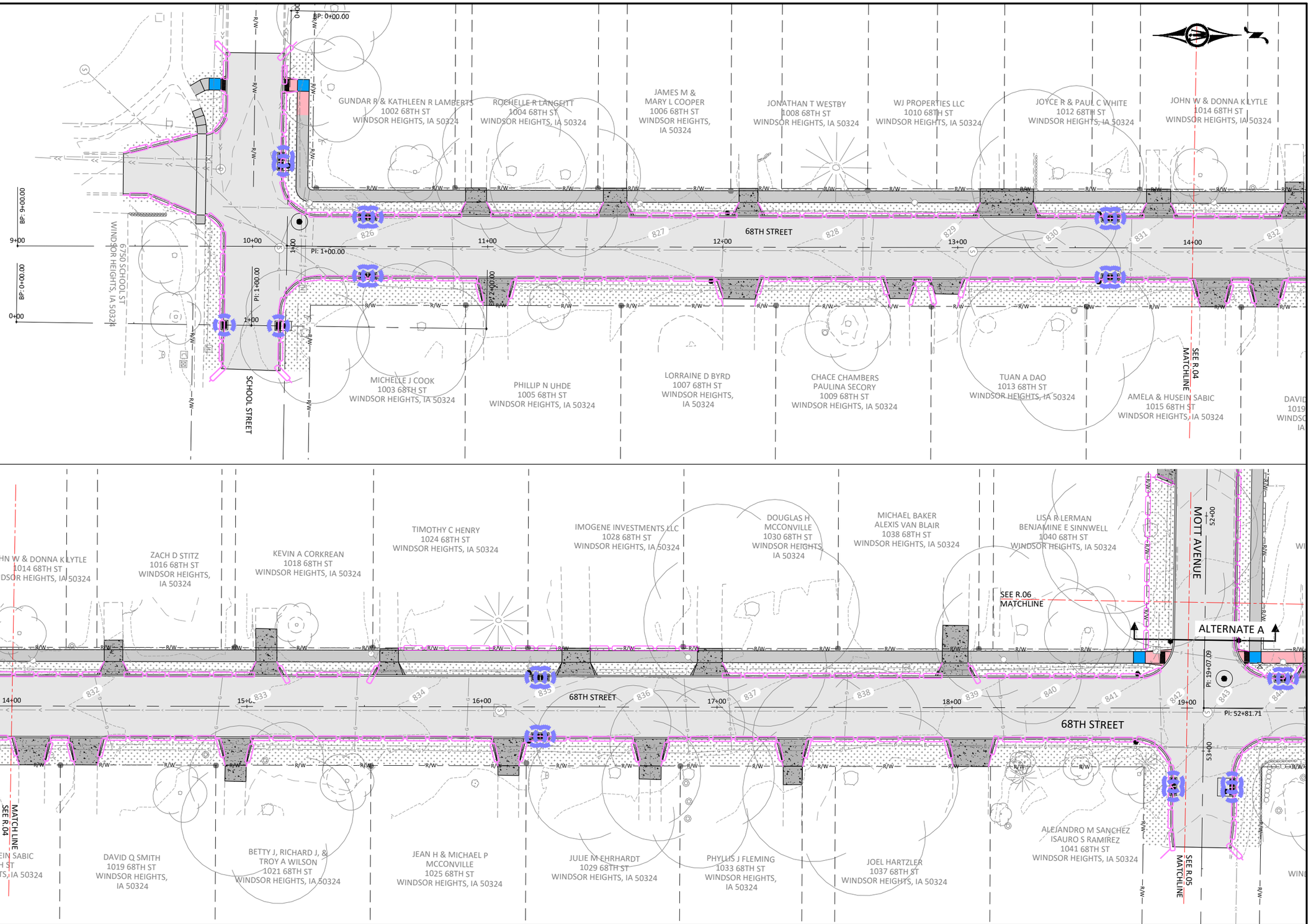
68TH STREET SOUTH RECONSTRUCTION

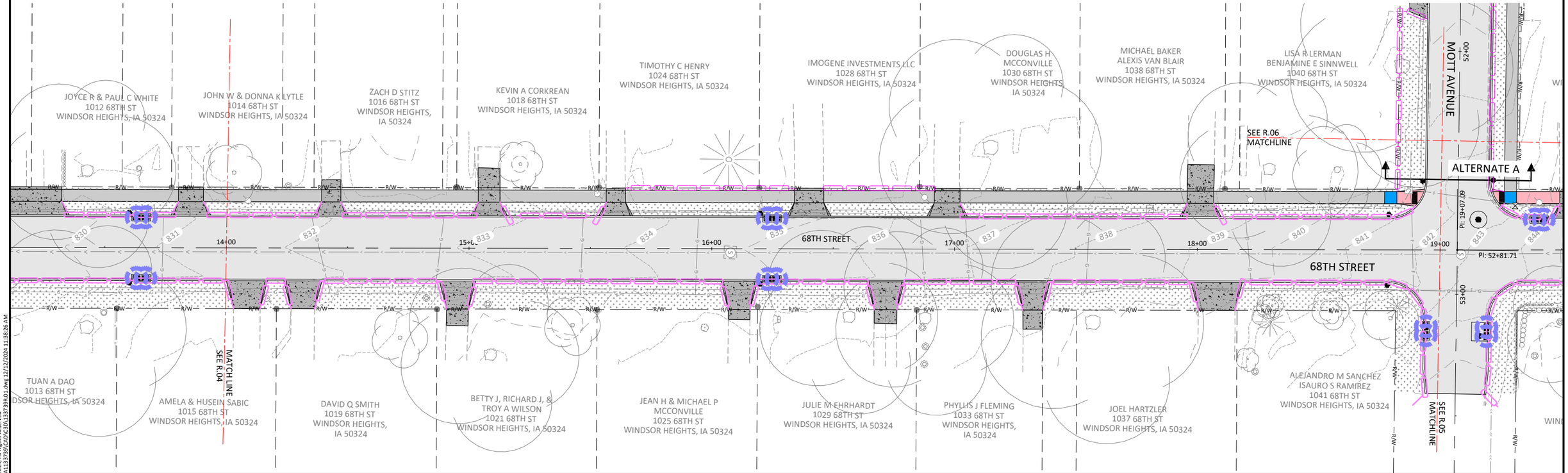
SHEET R.03

EROSION CONTROL LEGEND

- MAJOR CONTOUR - EXISTING
- MINOR CONTOUR - EXISTING
- MAJOR CONTOUR - PROPOSED
- MINOR CONTOUR - PROPOSED
- DRAINAGE ARROW
- FILTER SOCK/WATTLE
- INLET PROTECTION
- SEED

NOTE:
EROSIONS CONTROL BEST MANAGEMENT PRACTICES (BMPs) AS SHOWN ON THIS PLAN SHEET ARE RECOMMENDATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, INSTALLING, AND MODIFYING BMPs AS NECESSARY TO PREVENT ILLICIT DISCHARGE FROM THE PROJECT SITE.





HORZ. 0 20 40 SCALE FEET

WINDSOR HEIGHTS

BOLTON & MENK

430 E GRAND AVENUE, SUITE 101
DES MOINES, IA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

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DRAWN			
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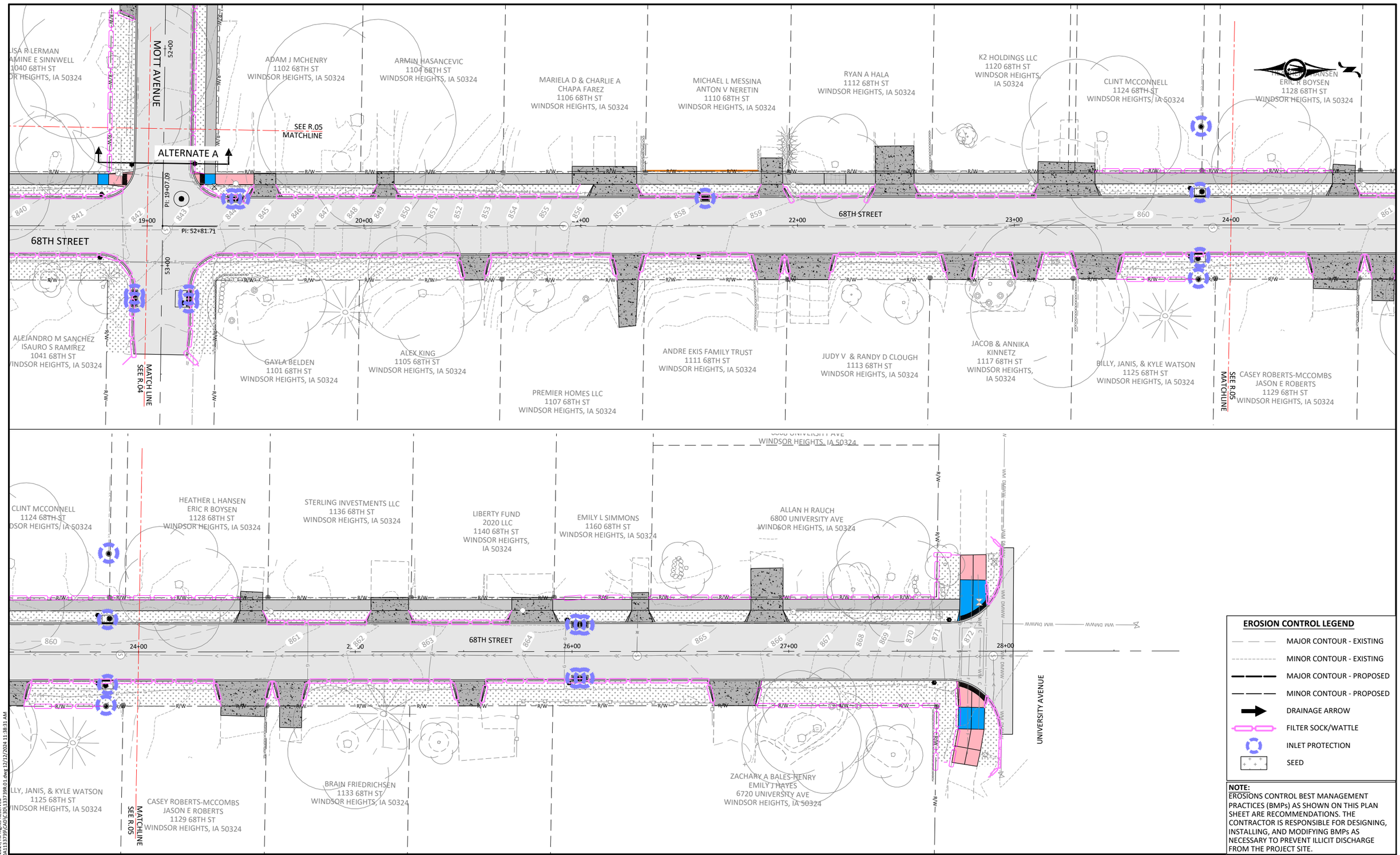
JLE			
CLIENT PROJ. NO.			
OA1.133739			

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
EROSION CONTROL PLAN

SHEET R.04



EROSION CONTROL LEGEND

- MAJOR CONTOUR - EXISTING
- MINOR CONTOUR - EXISTING
- MAJOR CONTOUR - PROPOSED
- MINOR CONTOUR - PROPOSED
- DRAINAGE ARROW
- FILTER SOCK/WATTLE
- INLET PROTECTION
- SEED

NOTE:
EROSIONS CONTROL BEST MANAGEMENT PRACTICES (BMPs) AS SHOWN ON THIS PLAN SHEET ARE RECOMMENDATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, INSTALLING, AND MODIFYING BMPs AS NECESSARY TO PREVENT ILLICIT DISCHARGE FROM THE PROJECT SITE.

HORZ. SCALE 0 20 40 FEET

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REV	DESCRIPTION	DATE

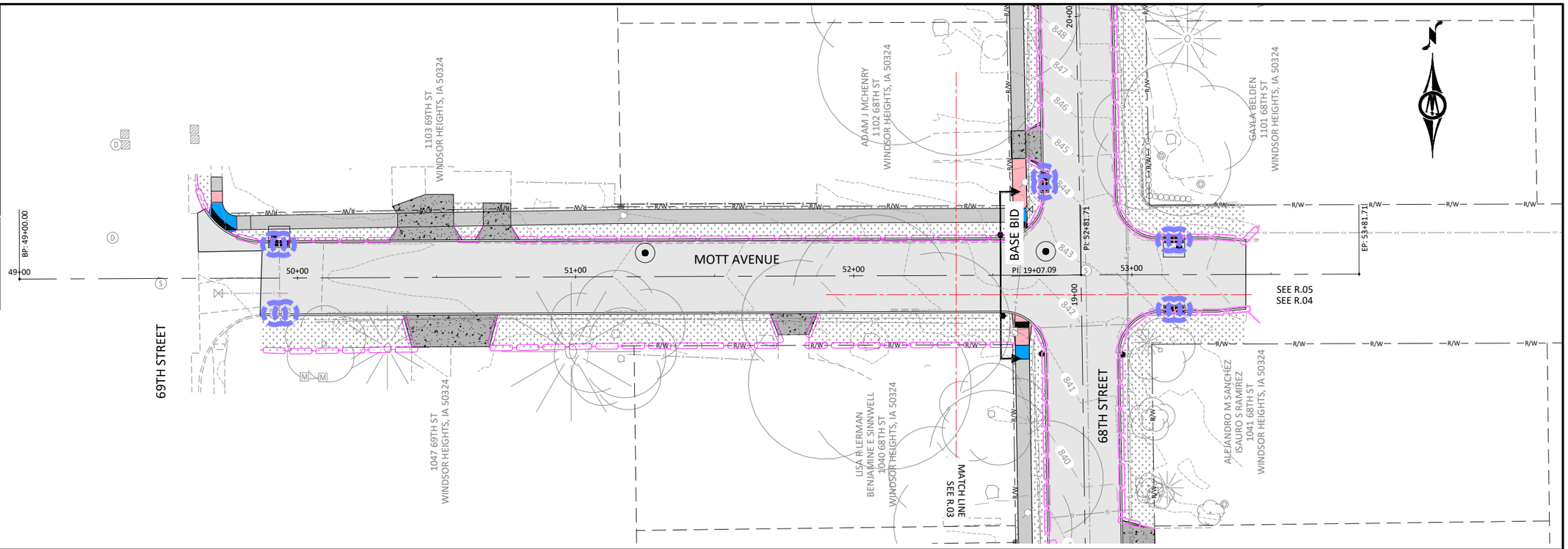
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
EROSION CONTROL PLAN

SHEET R.05

EROSION CONTROL LEGEND

- MAJOR CONTOUR - EXISTING
- MINOR CONTOUR - EXISTING
- MAJOR CONTOUR - PROPOSED
- MINOR CONTOUR - PROPOSED
- DRAINAGE ARROW
- FILTER SOCK/WATTLE
- INLET PROTECTION
- SEED

NOTE:
EROSIONS CONTROL BEST MANAGEMENT PRACTICES (BMPs) AS SHOWN ON THIS PLAN SHEET ARE RECOMMENDATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, INSTALLING, AND MODIFYING BMPs AS NECESSARY TO PROVIDE ILLICIT DISCHARGE FROM THE PROJECT SITE.



HORZ. SCALE 0 20 40 FEET

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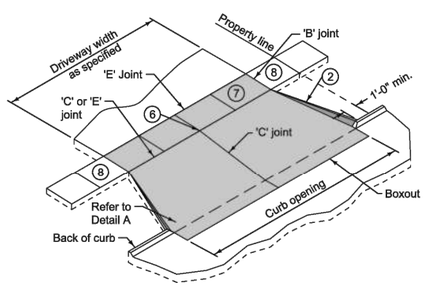
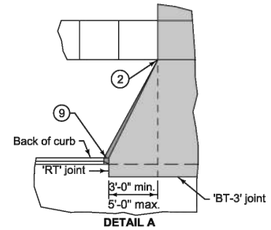
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
EROSION CONTROL PLAN

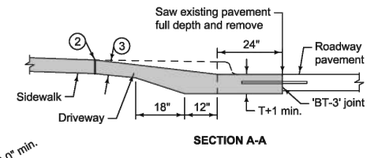
SHEET
R.06



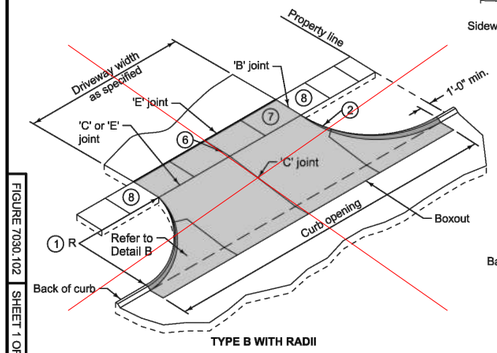
TYPE B WITH FLARES



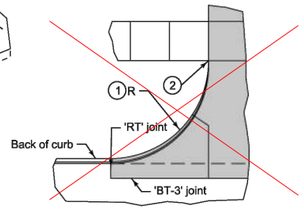
DETAIL A
(Residential/Agricultural Only)



SECTION A-A



TYPE B WITH RADII



DETAIL B

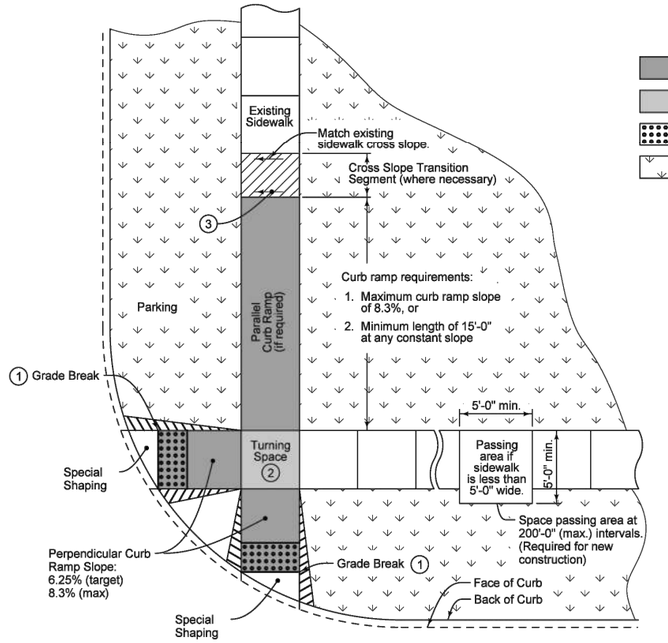
1. Driveway radius (R).
   Residential: 10 foot minimum, 15 foot maximum.
   Commercial and industrial: As specified in the contract documents.
2. Transition the curb height to 0 inches at end of taper/radius or at the front edge of sidewalk. Do not extend raised curb cross sidewalk.
3. Pavement thickness.
   Residential: 6 inches minimum.
   Commercial and industrial: 7 inches minimum.
4. Sidewalk thickness through driveway to match thickness of driveway.
5. If longitudinal joint is located 48 inches or less from the back of curb, extend boxout to joint line. Full depth saw cut is still required.
6. For alleys, invert the pavement crown 2% toward the center of the alley.
7. Target cross slope of 1.5% with a maximum cross slope of 2.0%. If specified in the contract documents, construct the sidewalk through the driveway 5 feet wide to serve as a passing space.
8. If cross slope of adjacent sidewalk panel exceeds 2.0%, remove and replace to transition from existing sidewalk to sidewalk through driveway. If the elevation change requires a curb ramp, comply with Figure 7030.205; verify need for detectable warning panel with Engineer.
9. Transition street curb at minimum 1:1 slope to meet driveway curb.

SUDAS | REVISION 5 2023 Edition | 7030.102 | SHEET 1 of 1

SUDAS Standard Specifications

CONCRETE DRIVEWAY, TYPE B

FIGURE 7030.102 | SHEET 1 OF 1



Key
- Curb Ramp
- Turning Space
- Detectable Warning
- Grass

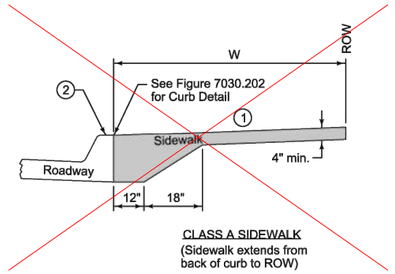
1. Match pedestrian street crossing slope, or flatter.
2. Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0%.
3. Target cross slope of 1.5% with a maximum cross slope of 2.0%.

SUDAS | REVISION 3 10-20-15 | 7030.204 | SHEET 1 of 1

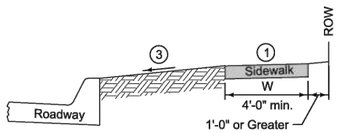
SUDAS Standard Specifications

GENERAL FEATURES OF AN ACCESSIBLE SIDEWALK

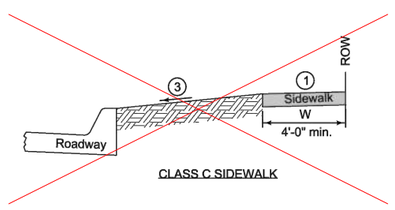
FIGURE 7030.204 | SHEET 1 OF 1



CLASS A SIDEWALK
(Sidewalk extends from back of curb to ROW)



CLASS B SIDEWALK



CLASS C SIDEWALK

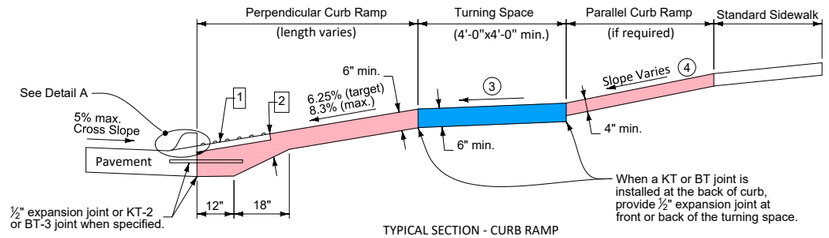
1. Target cross slope of 1.5% with a maximum cross slope of 2.0% (including sidewalk through driveway).
2. Ensure top of curb slopes to street for drainage.
3. Parking Slopes:
   If parking width is less than 10 feet wide, slope at ¼ inch per foot.
   If parking width is 10 feet wide and greater, slope at ½ inch per foot.
   Special grade may be specified in the contract documents.
   W = Sidewalk width as specified in the contract documents.

SUDAS | REVISION 3 2022 Edition | 7030.201 | SHEET 1 of 1

SUDAS Standard Specifications

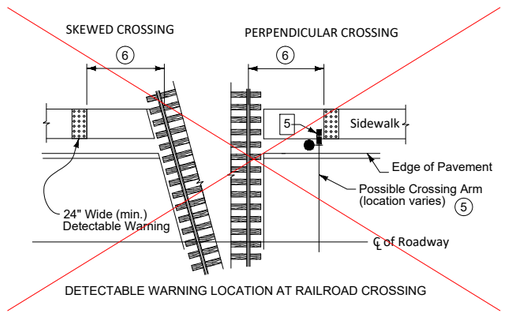
CLASSES OF SIDEWALKS

FIGURE 7030.201 | SHEET 1 OF 1

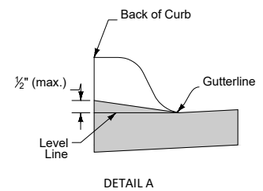


TYPICAL SECTION - CURB RAMP

Key
- Curb Ramp
- Turning Space
- Detectable warning



DETECTABLE WARNING LOCATION AT RAILROAD CROSSING



DETAIL A

1. Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.
2. Provide a minimum of 6 inches of concrete below the detectable warning panel.
3. Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0%.
4. If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

   The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.
5. If crossing gate conflicts with location of detectable warning or if pedestrian crossing gate is provided, place detectable warning panel in advance of the crossing gate.
6. Locate front edge of detectable warning panel 12 to 15 feet from centerline of nearest rail. Orient truncated domes parallel to the direction of pedestrian travel.

SUDAS | REVISION 1 10-20-15 | 7030.205 | SHEET 1 of 1

SUDAS Standard Specifications

GENERAL SIDEWALK AND CURB RAMP DETAILS

FIGURE 7030.205 | SHEET 1 OF 1

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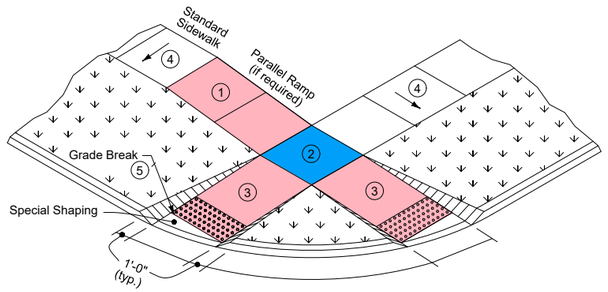
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIDEWALK DETAILS

SHEET S.01



1. Parallel Curb Ramp: If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

   The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.

2. Turning Space: Target slope of 1.5% with maximum slope perpendicular to the travel directions of 2.0%. Minimum 4 feet by 4 feet.

3. Perpendicular Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%.

4. Target cross slope of 1.5% with a maximum cross slope of 2.0%.

5. Match pedestrian street crossing cross slope or flatter.

Key

- Curb Ramp
- Turning Space
- Detectable warning
- Grass

FIGURE 7030.207 | SHEET 1 OF 1

SUDAS

REVISION: New 10-16-12

7030.207

SHEET 1 of 1

SUDAS Standard Specifications

CURB RAMP FOR CLASS B OR C SIDEWALK

WINDSOR HEIGHTS

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CITY OF WINDSOR HEIGHTS, IOWA

68TH STREET SOUTH RECONSTRUCTION

SIDEWALK DETAILS

SHEET S.02

LEGEND

- ADA RAMP
- TURNING SPACE
- SIDEWALK/TRAIL
- COMBINE RETAINING WALL & SIDEWALK
- DRIVEWAY PCC PAVEMENT
- DETECTABLE WARNING

TC - TOP OF CURB
FG - FORM GRADE
ME - MATCH TO EXISTING
TW - TOP OF WALL
BW - BOTTOM OF WALL
HP - HIGH POINT
LP - LOW POINT

SCHOOL STREET

68TH STREET

6750 SCHOOL ST
WINDSOR HEIGHTS, IA 50324

GUNDAR R & KATHLEEN R LAMBERTS
1002 68TH ST
WINDSOR HEIGHTS, IA 50324

ROCHELLE R LANGFITT
1004 68TH ST
WINDSOR HEIGHTS, IA 50324

JAMES M & MARY L COOPER
1006 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHELLE J COOK
1003 68TH ST
WINDSOR HEIGHTS, IA 50324

PHILLIP N UHDE
1005 68TH ST
WINDSOR HEIGHTS, IA 50324

LORRAINE D BYRD
1007 68TH ST
WINDSOR HEIGHTS, IA 50324

SEE SHEET S.03 MATCHLINE

JAMES M & MARY L COOPER
1006 68TH ST
WINDSOR HEIGHTS, IA 50324

JONATHAN T WESTBY
1008 68TH ST
WINDSOR HEIGHTS, IA 50324

WJ PROPERTIES LLC
1010 68TH ST
WINDSOR HEIGHTS, IA 50324

JOYCE R & PAUL C WHITE
1012 68TH ST
WINDSOR HEIGHTS, IA 50324

JOHN W & DONNA K LYTLE
1014 68TH ST
WINDSOR HEIGHTS, IA 50324

ZACH D STITZ
1016 68TH ST
WINDSOR HEIGHTS, IA 50324

LORRAINE D BYRD
1007 68TH ST
WINDSOR HEIGHTS, IA 50324

SEE SHEET S.03 MATCHLINE

CHACE CHAMBERS
PAULINA SECORY
1009 68TH ST
WINDSOR HEIGHTS, IA 50324

TUAN A DAO
1013 68TH ST
WINDSOR HEIGHTS, IA 50324

AMELA & HUSEIN SABIC
1015 68TH ST
WINDSOR HEIGHTS, IA 50324

DAVID Q SMITH
1019 68TH ST
WINDSOR HEIGHTS, IA 50324

SEE SHEETS S.04 MATCHLINE

HORZ. SCALE 0 10 20 FEET

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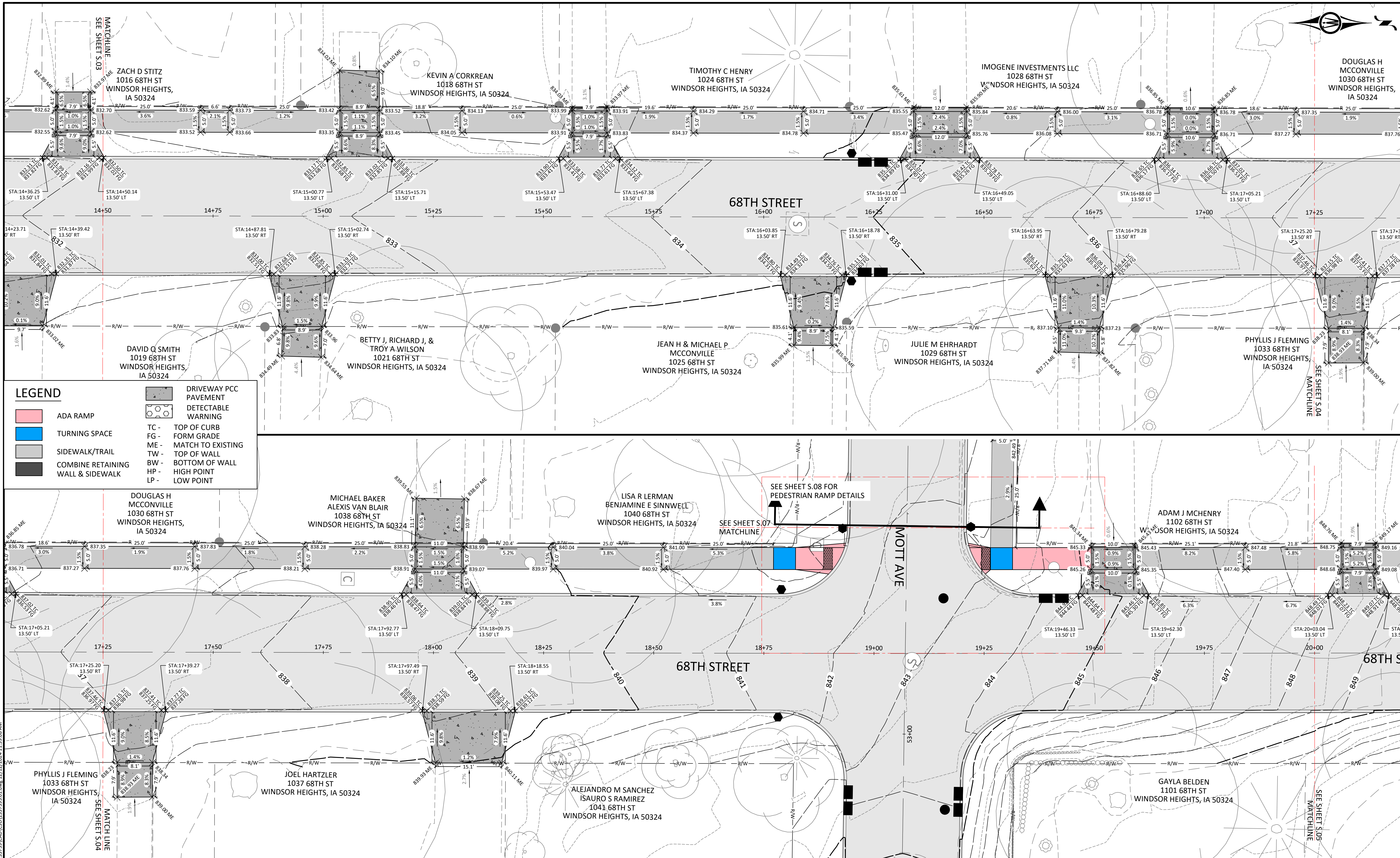
68TH STREET SOUTH RECONSTRUCTION
SIDEWALK SHEETS - 68TH STREET

SHEET S.03



HORZ. 0 10 20 SCALE FEET

WINDSOR HEIGHTS the heart of it all

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIDEWALK SHEETS - 68TH STREET

SHEET S.04

LEGEND

- ADA RAMP
- TURNING SPACE
- SIDEWALK/TRAIL
- COMBINE RETAINING WALL & SIDEWALK
- DRIVEWAY PCC PAVEMENT
- DETECTABLE WARNING

TC - TOP OF CURB
FG - FORM GRADE
ME - MATCH TO EXISTING
TW - TOP OF WALL
BW - BOTTOM OF WALL
HP - HIGH POINT
LP - LOW POINT

MATCHLINE SEE SHEET S.04

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WINDSOR HEIGHTS, IA 50324

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1106 68TH ST
WINDSOR HEIGHTS, IA 50324

MICHAEL L MESSINA
ANTON V NERETIN
1110 68TH ST
WINDSOR HEIGHTS, IA 50324

RYAN A HALA
1112 68TH ST
WINDSOR HEIGHTS, IA 50324

K2 HOLDINGS LLC
1120 68TH ST
WINDSOR HEIGHTS, IA 50324

68TH STREET

ALEX KING
1105 68TH ST
WINDSOR HEIGHTS, IA 50324

PREMIER HOMES LLC
1107 68TH ST
WINDSOR HEIGHTS, IA 50324

ANDRE EKIS FAMILY TRUST
1111 68TH ST
WINDSOR HEIGHTS, IA 50324

JUDY V & RANDY D CLOUGH
1113 68TH ST
WINDSOR HEIGHTS, IA 50324

JACOB & ANNIKA KINNETZ
1117 68TH ST
WINDSOR HEIGHTS, IA 50324

MATCHLINE SEE SHEET S.05

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WINDSOR HEIGHTS, IA 50324

CLINT MCCONNELL
1124 68TH ST
WINDSOR HEIGHTS, IA 50324

HEATHER L HANSEN
ERIC R BOYSEN
1128 68TH ST
WINDSOR HEIGHTS, IA 50324

STERLING INVESTMENTS LLC
1136 68TH ST
WINDSOR HEIGHTS, IA 50324

LIBERTY FUND 2020 LLC
1140 68TH ST
WINDSOR HEIGHTS, IA 50324

68TH STREET

JACOB & ANNIKA KINNETZ
1117 68TH ST
WINDSOR HEIGHTS, IA 50324

BILLY, JANIS, & KYLE WATSON
1125 68TH ST
WINDSOR HEIGHTS, IA 50324

CASEY ROBERTS-MCCOMBS
JASON E ROBERTS
1129 68TH ST
WINDSOR HEIGHTS, IA 50324

BRAIN FRIEDRICHSEN
1133 68TH ST
WINDSOR HEIGHTS, IA 50324

MATCHLINE SEE SHEET S.06

HORZ. SCALE 0 10 20 FEET

WINDSOR HEIGHTS

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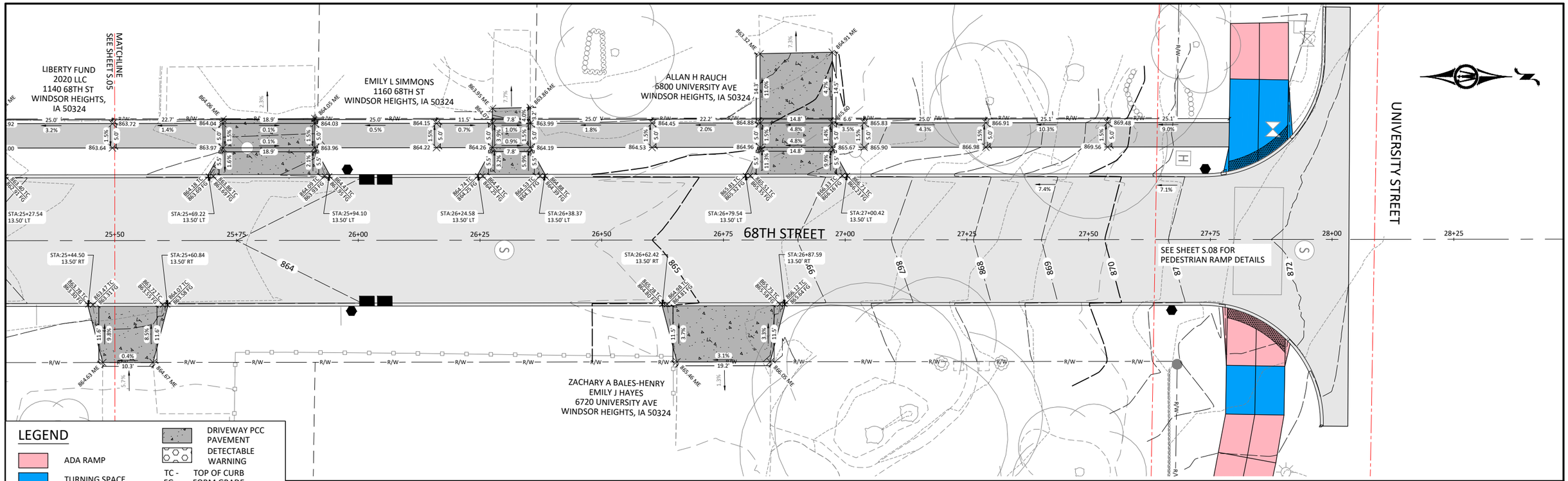
68TH STREET SOUTH RECONSTRUCTION
SIDEWALK SHEETS - 68TH STREET

SHEET S.05



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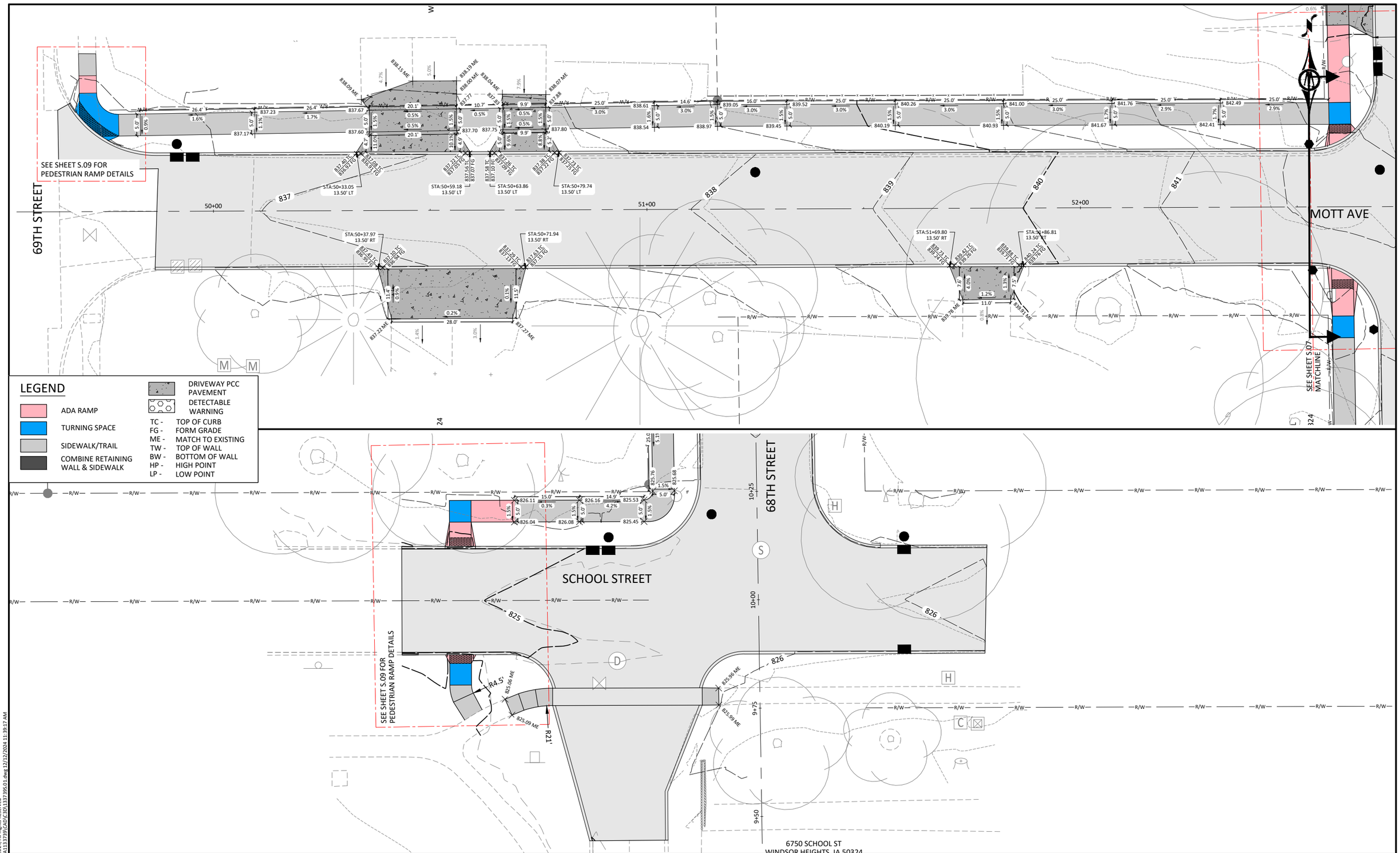
SIDEWALK SHEETS - 68TH STREET

SHEET S.06



HORZ. SCALE 0 10 20 FEET

WINDSOR HEIGHTS
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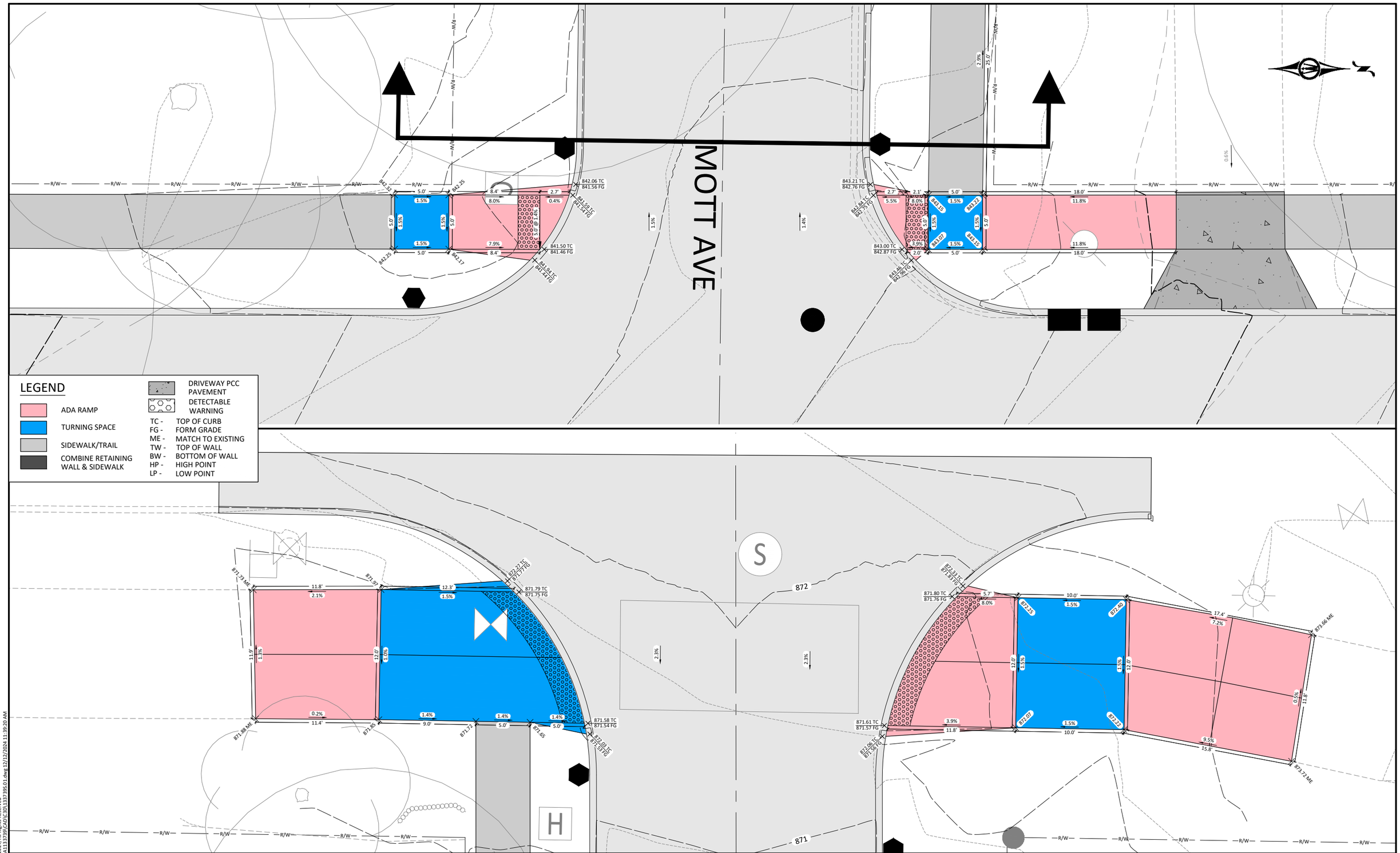
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
SIDEWALK SHEETS - MOTT AVENUE & SCHOOL STREET

SHEET S.07



HORZ. SCALE 0 4 8 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ADA COMPLIANCE

SHEET
S.08

SCHOOL STREET

69TH STREET

R4.5'

R21'

LEGEND

- ADA RAMP
- TURNING SPACE
- SIDEWALK/TRAIL
- COMBINE RETAINING WALL & SIDEWALK
- DRIVEWAY PCC PAVEMENT
- DETECTABLE WARNING

TC -	TOP OF CURB
FG -	FORM GRADE
ME -	MATCH TO EXISTING
TW -	TOP OF WALL
BW -	BOTTOM OF WALL
HP -	HIGH POINT
LP -	LOW POINT

HORZ. SCALE 0 4 8 FEET

WINDSOR HEIGHTS
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www.bolton-menk.com

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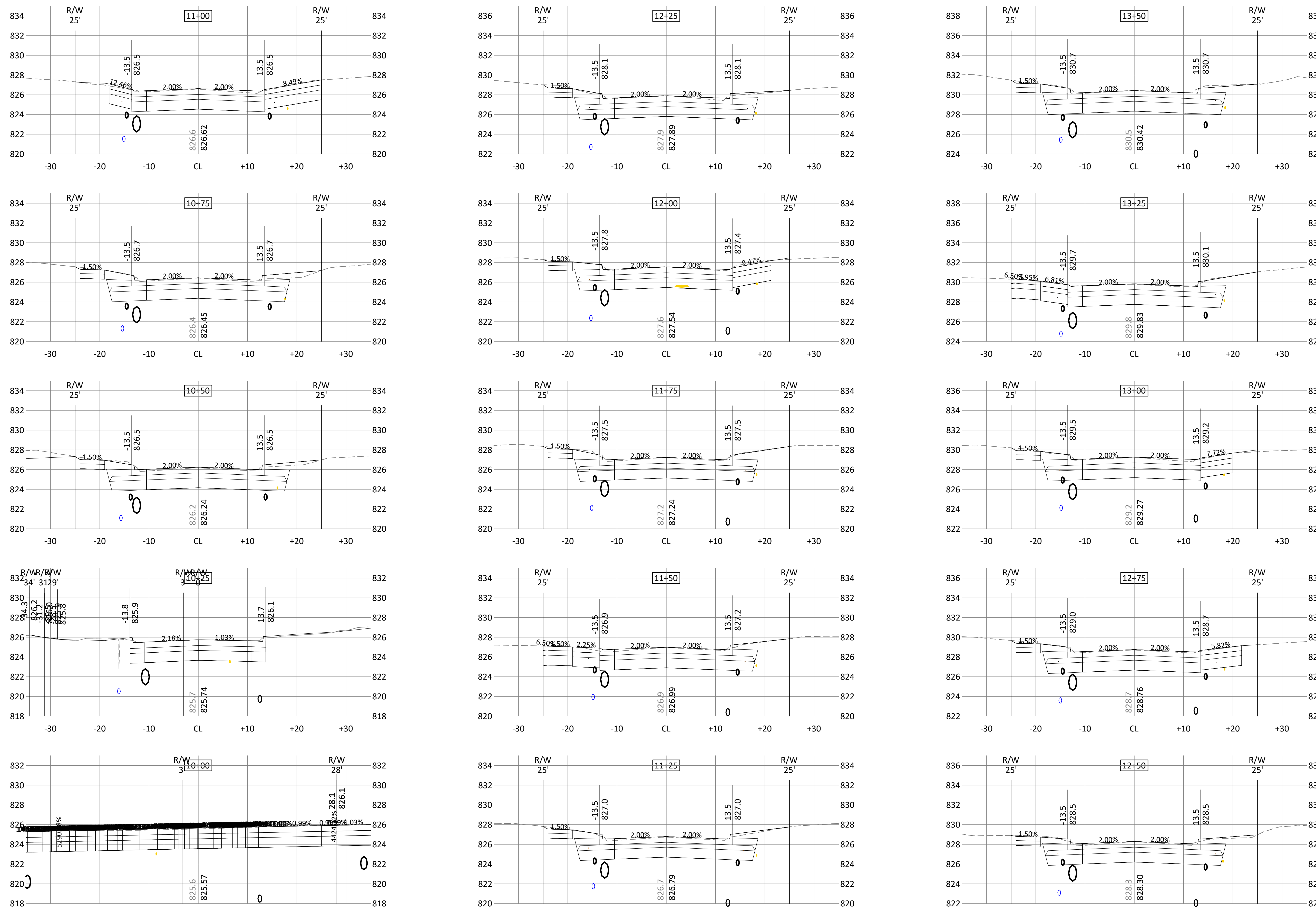
DRAWN	PL
CHECKED	JLE
CLIENT PROJ. NO.	0A1.133739

REV	DESCRIPTION	DATE

CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
ADA COMPLIANCE

SHEET S.09



WINDSOR HEIGHTS the heart of it all

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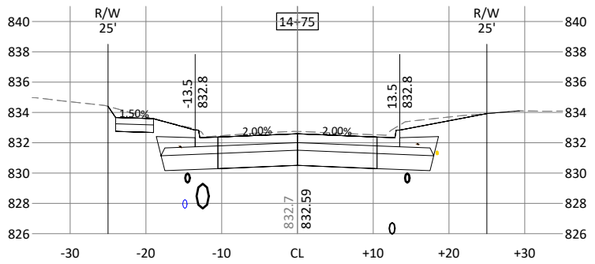
REV	DESCRIPTION	DATE

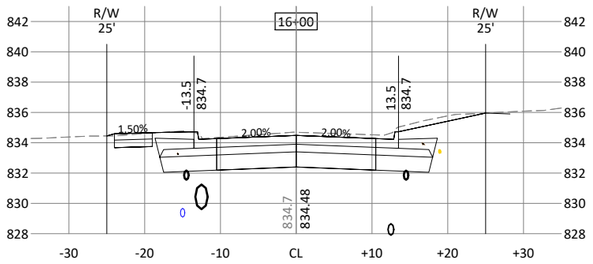
CITY OF WINDSOR HEIGHTS, IOWA

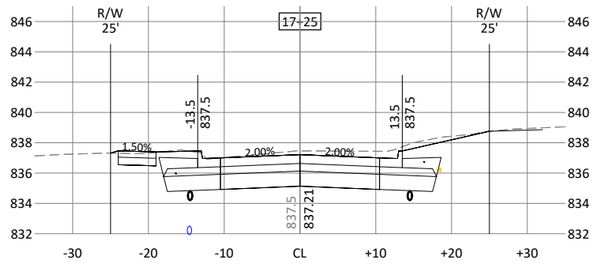
68TH STREET SOUTH RECONSTRUCTION

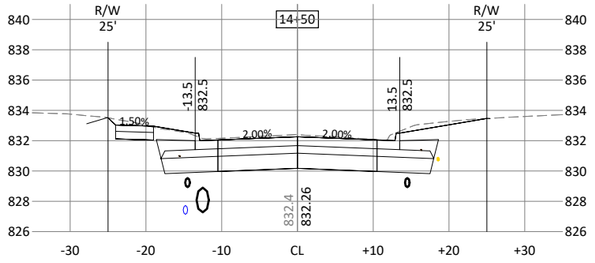
CROSS SECTIONS

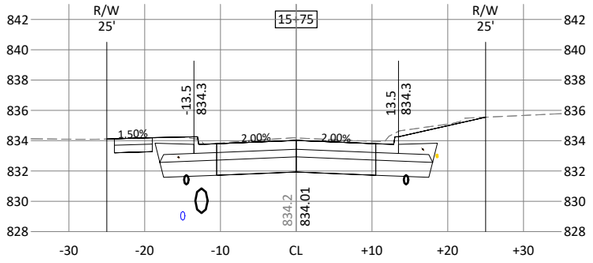
SHEET W.01

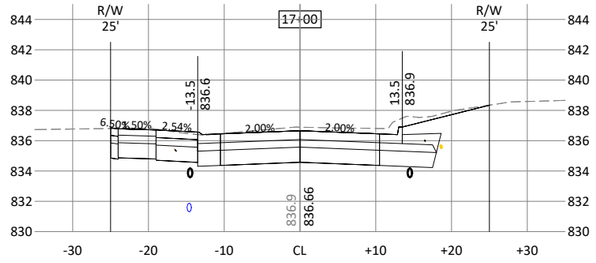


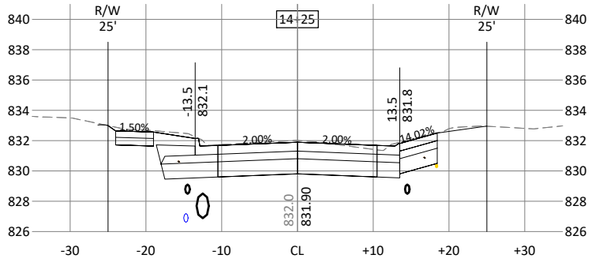


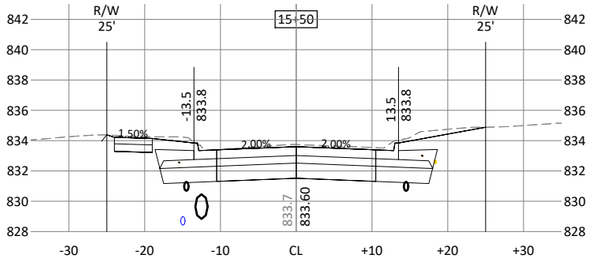


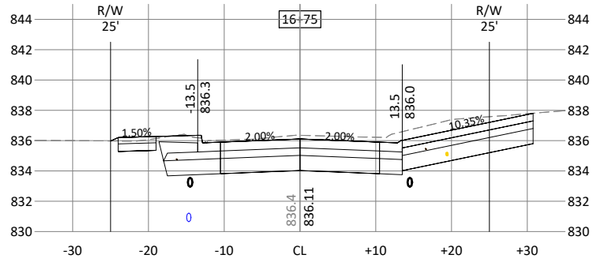


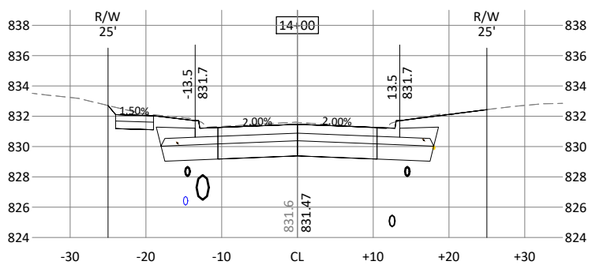


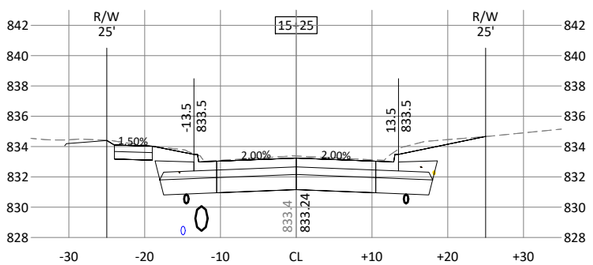


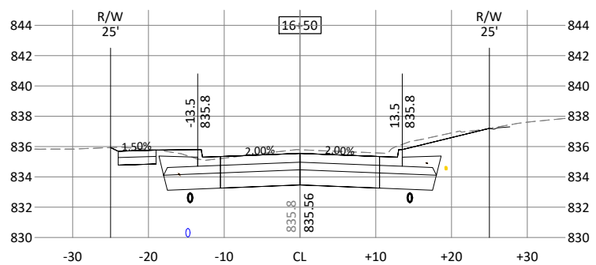


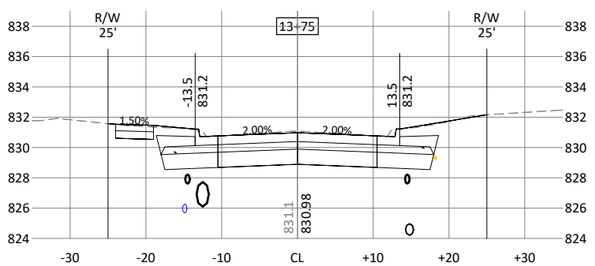


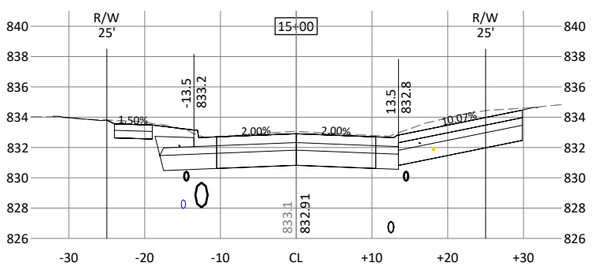


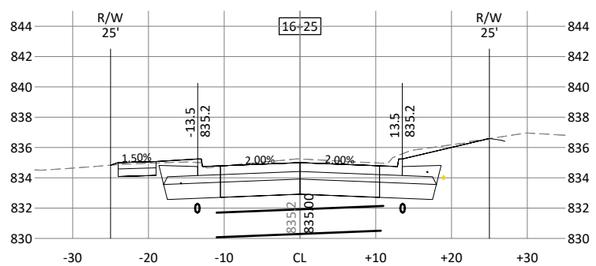












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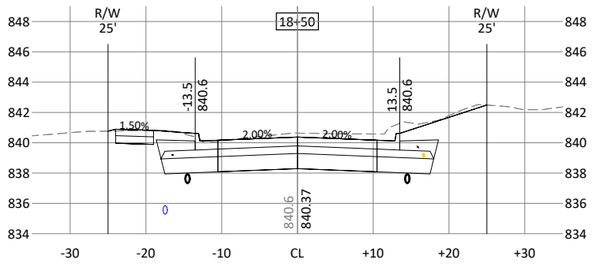
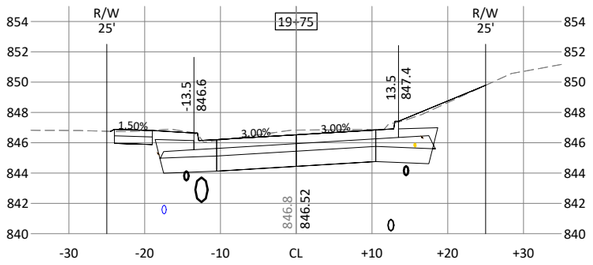
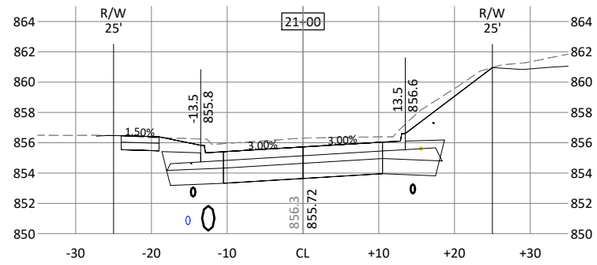
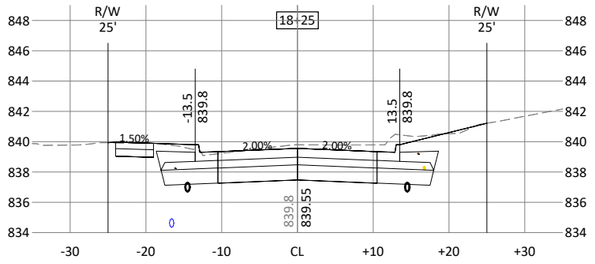
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
CROSS SECTIONS

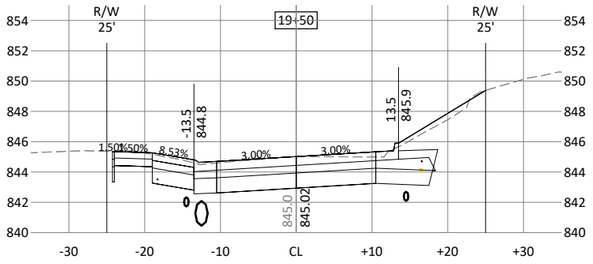
SHEET
W.02

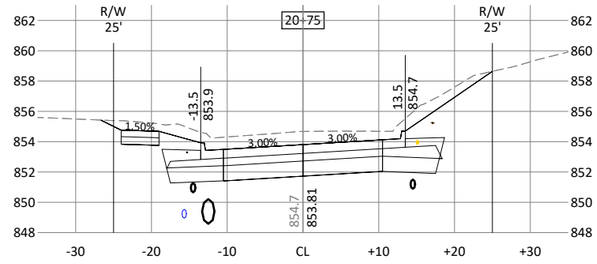


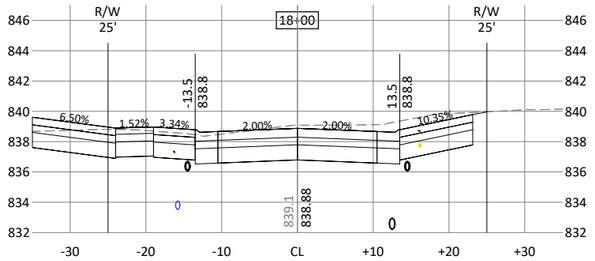


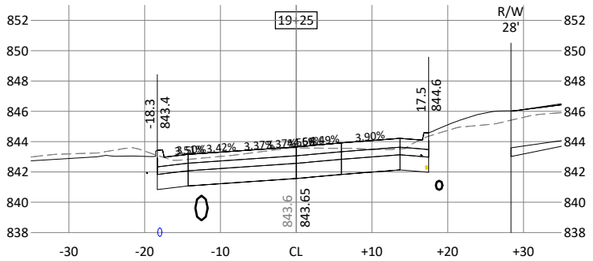


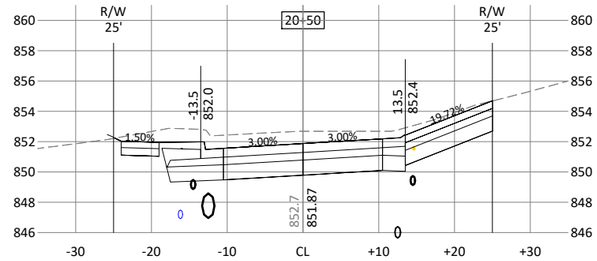


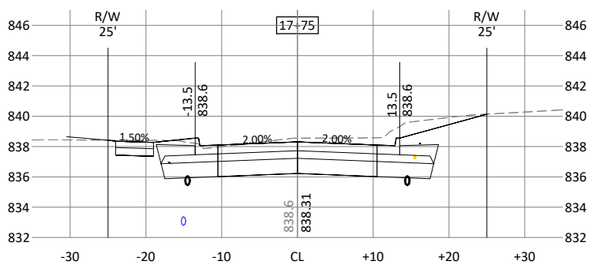


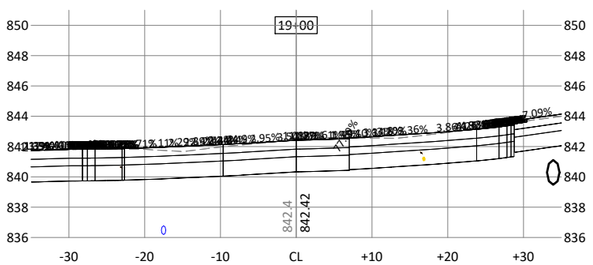


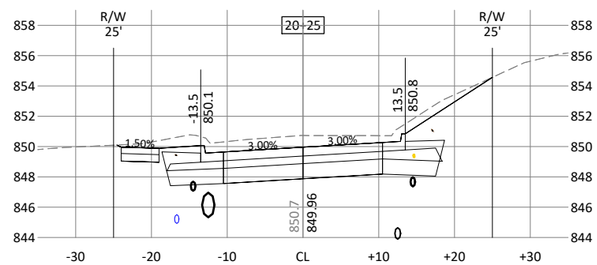


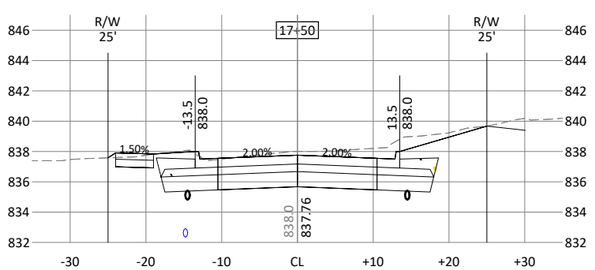


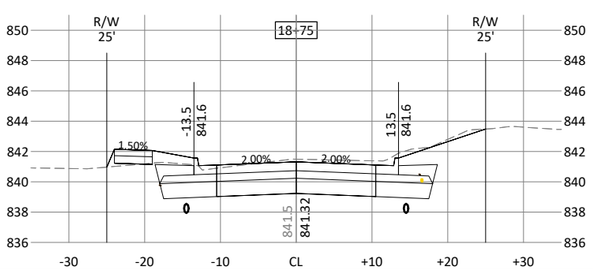


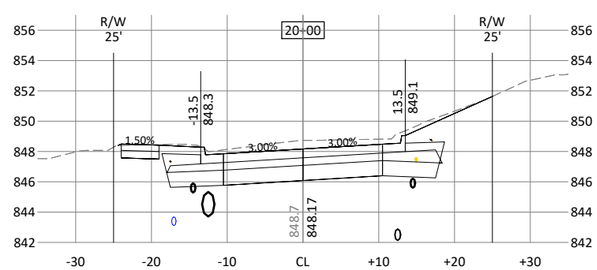












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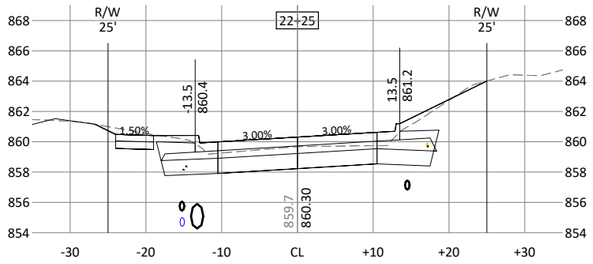
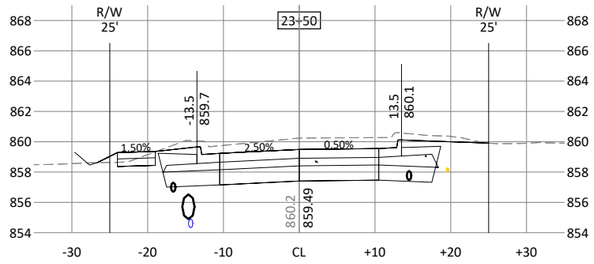
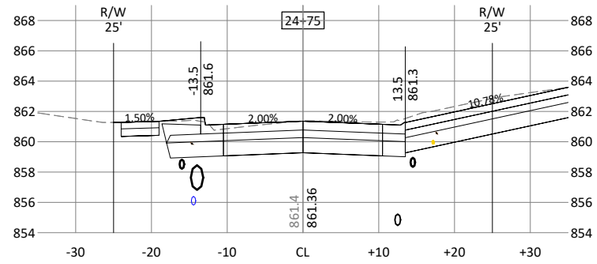
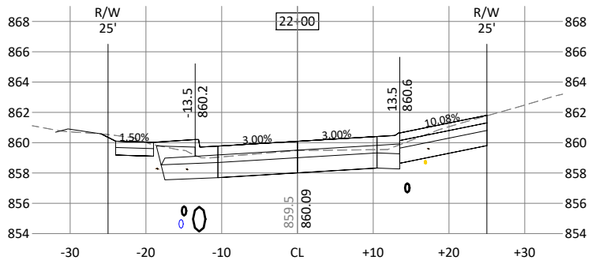
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
CROSS SECTIONS

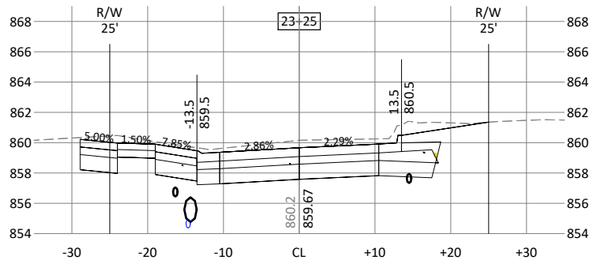
SHEET
W.03

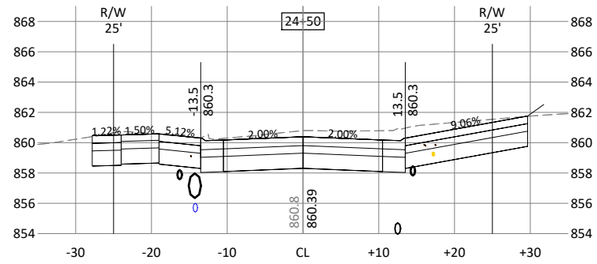


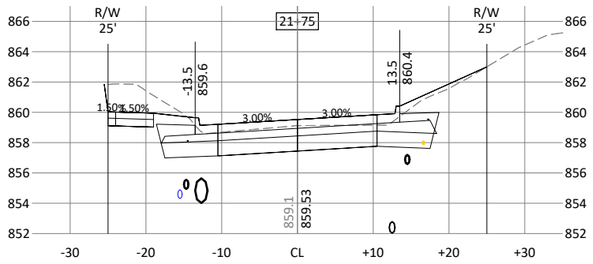


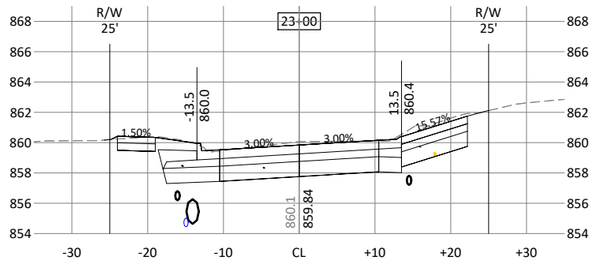


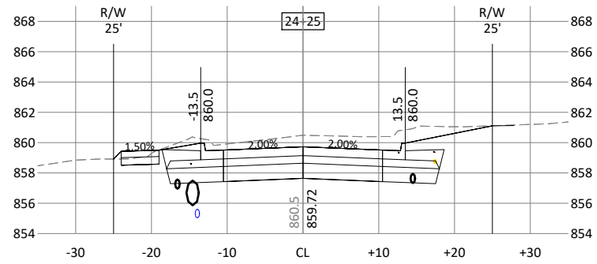


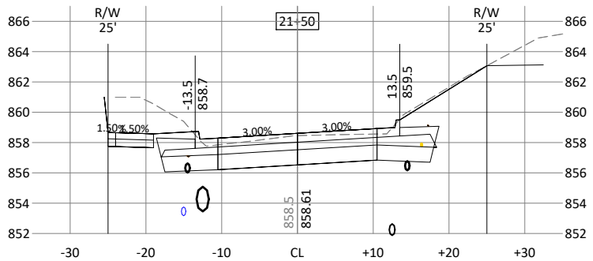


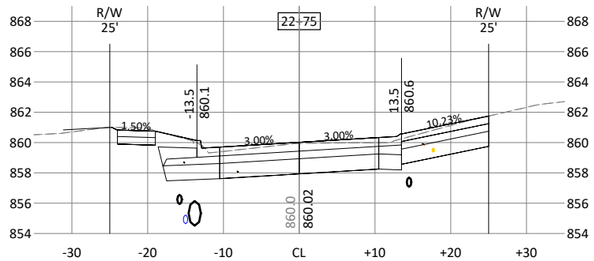


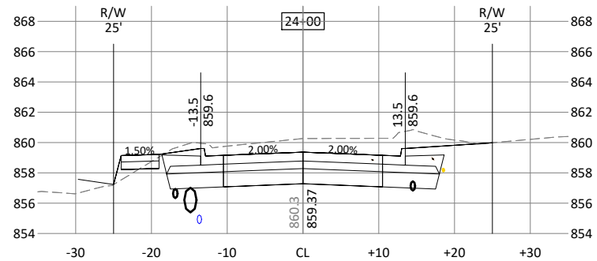


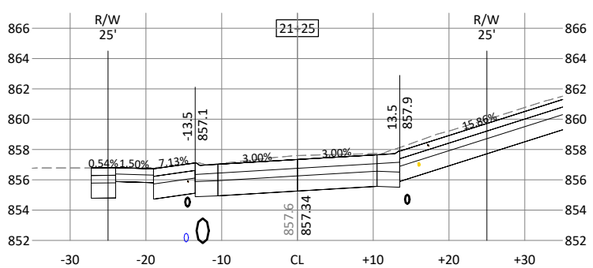


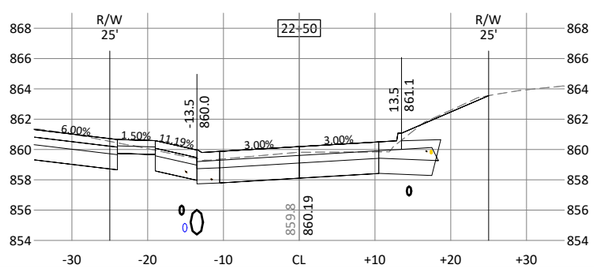


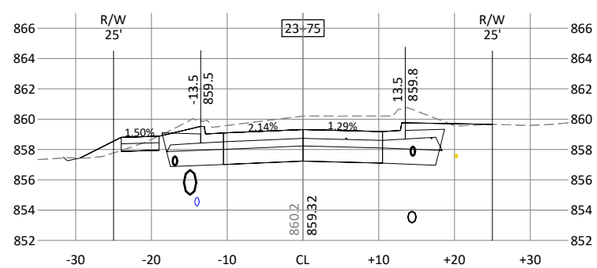












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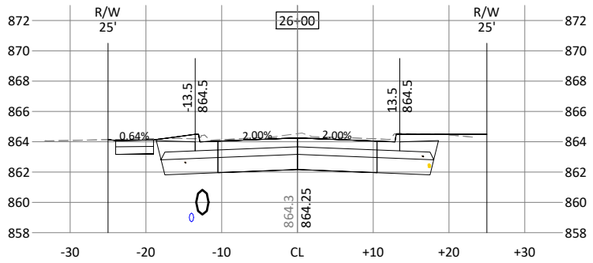
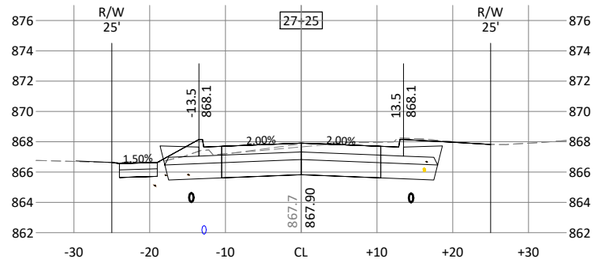
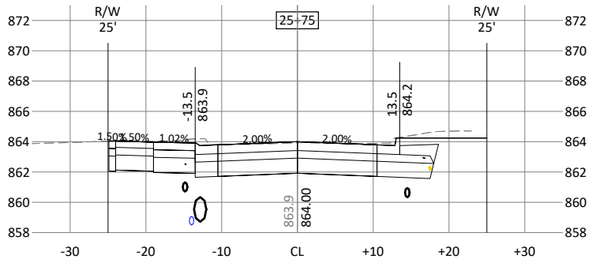
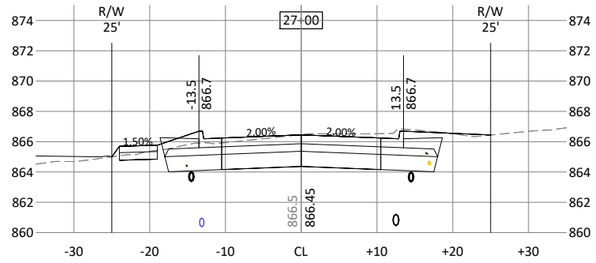
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
CROSS SECTIONS

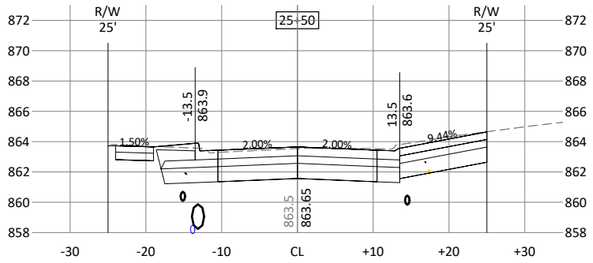
SHEET
W.04

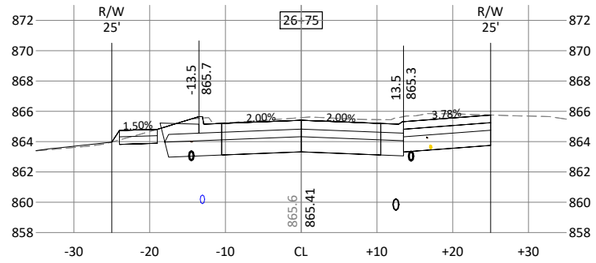


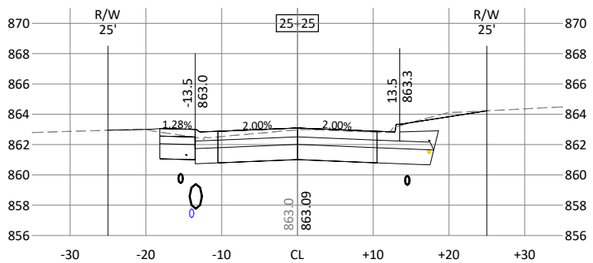


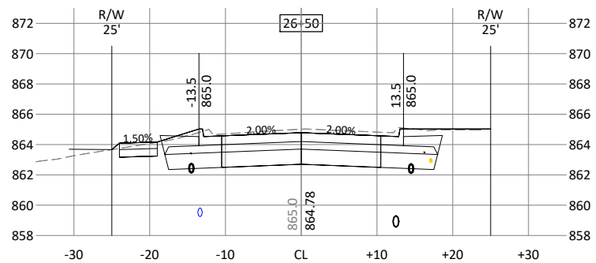


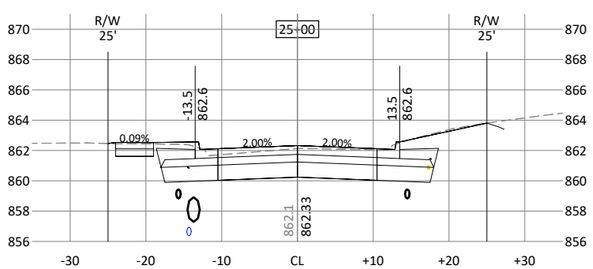


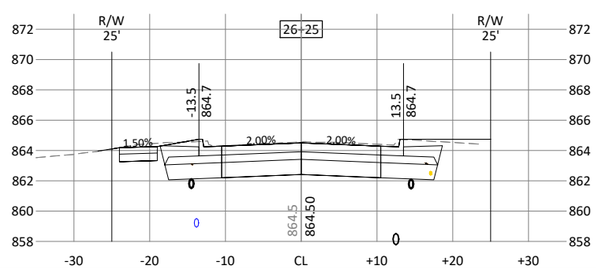


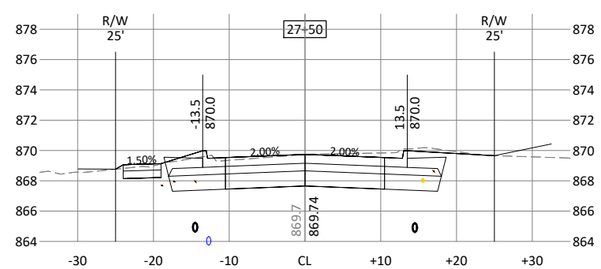












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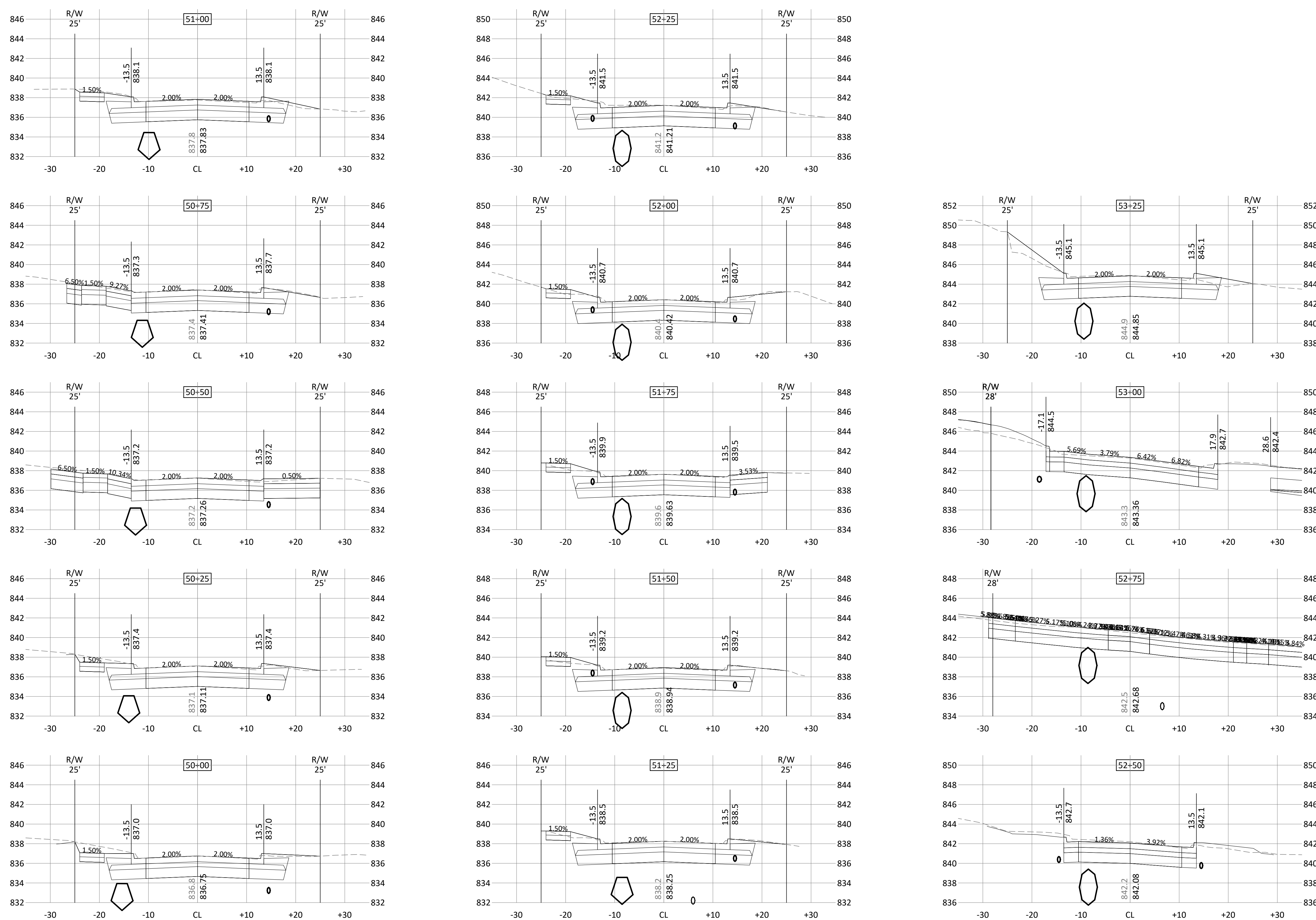
CITY OF WINDSOR HEIGHTS, IOWA
68TH STREET SOUTH RECONSTRUCTION
CROSS SECTIONS

SHEET
W.05



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