



NE 195th Street Ballinger Creek Culvert Replacement

Bid Number: #####

Date: December 2019

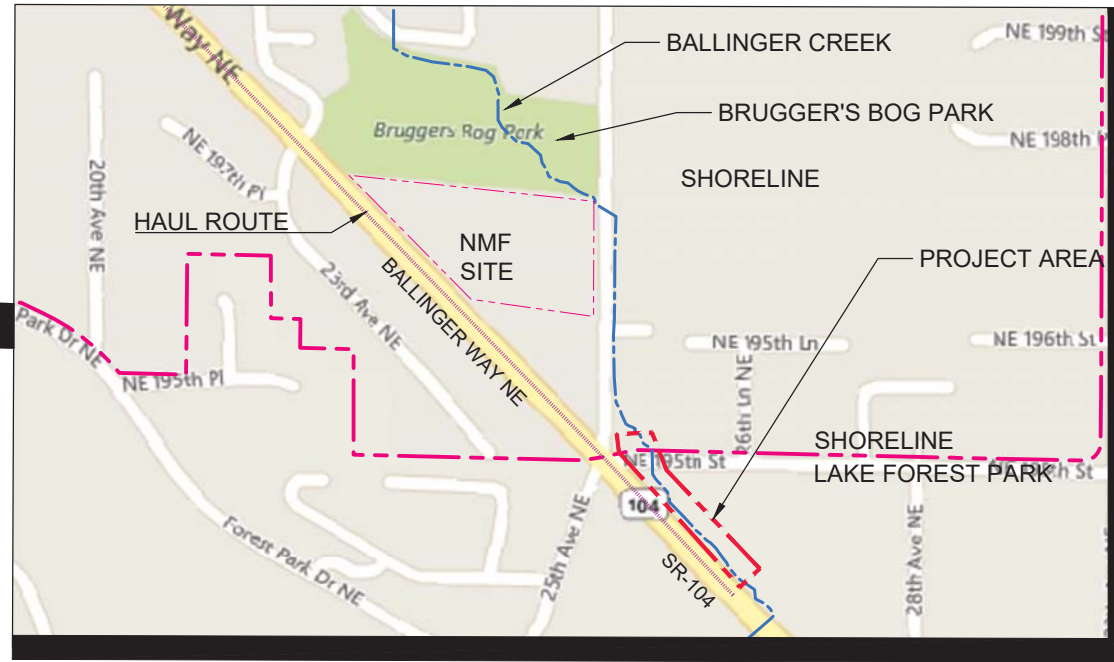
60% DESIGN

17500 Midvale Avenue North
Shoreline, WA 98133
(206) 801-2700

SHORELINE CITY COUNCIL
WILL HALL, MAYOR
DORIS MCCONNELL, DEPUTY MAYOR
SUSAN CHANG
KEITH MCGLASHAN
CHRIS ROBERTS
KEITH SCULLY
BETSY ROBERTSON

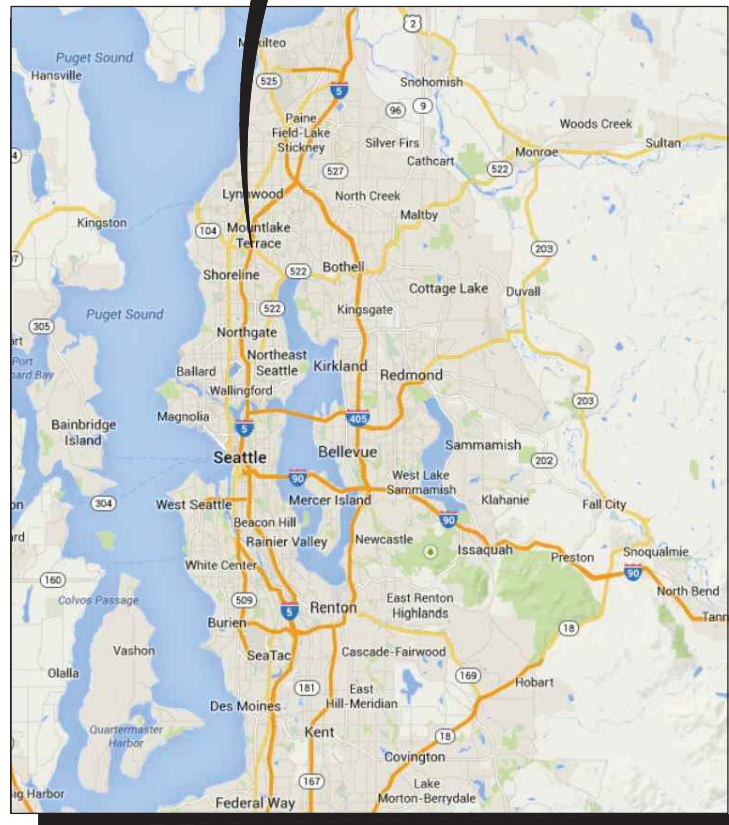
DIRECTOR OF PUBLIC WORKS
RANDY WITT, PE

PROJECT MANAGER
JOHN FEATHERSTONE, PE



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

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| SERVICES | |
|---|--|
| ELECTRICAL: | SEATTLE CITY LIGHT (206) 684-3000 |
| NATURAL GAS: | PUGET SOUND ENERGY (888) 225-5773 |
| TELEPHONE: | CENTURY LINK (800) 244-1111 or FRONTIER (877) 462-8188 |
| CABLE: | COMCAST (877) 824-2288 or FRONTIER (877) 462-8188 |
| WASTEWATER (SEWER): | LAKE FOREST PARK (206) 368-5440 |
| WATER (SEE VICINITY MAP FOR SERVICE AREAS): | NORTH CITY WATER DISTRICT (206) 362-8100 and LAKE FOREST PARK WATER DISTRICT (206) 365-3211 and SEATTLE PUBLIC UTILITIES (206) 684-3000 |
| STATION MASTER/ POST OFFICE: | 17233 15th Ave NE (800) 275-8777 |
| CALL BEFORE YOU DIG | 811 |

**60% REVIEW SUBMITTAL
NOT FOR CONSTRUCTION**

APPROVED FOR CONSTRUCTION

TRICIA JUHNKE, P.E., CITY ENGINEER

DATE

**FUNDED IN PART BY A FLOOD REDUCTION GRANT
FROM THE KING COUNTY FLOOD CONTROL DISTRICT**

**THIS PROJECT IS PART OF A PHASED ELEMENT OF THE CITY OF
SHORELINE 25TH AVENUE NE BALLINGER CREEK FLOOD REDUCTION
PROJECT.**

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |



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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
COVER

Project No. _____

Dwg
G1

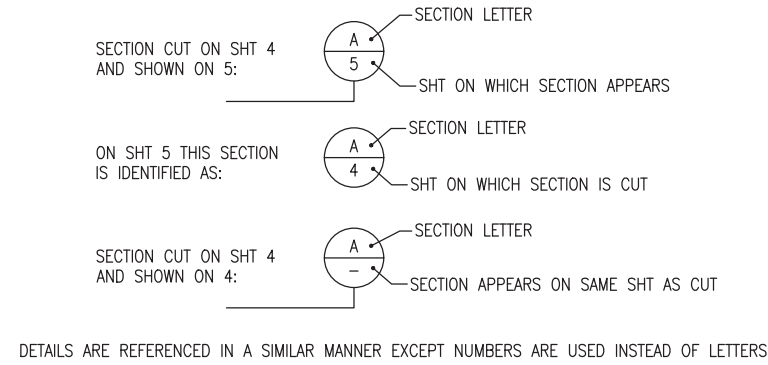
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LEGEND

| SYMBOL | | DESCRIPTION |
|----------|-----|----------------------------------|
| EXISTING | NEW | |
| | | FOUND SURVEY MONUMENT |
| | | SURVEY CONTROL STATION |
| | | CB CATCH BASIN |
| | | CBMH CATCH BASIN MANHOLE |
| | | SDMH STORM DRAIN MANHOLE |
| | | SSMH SANITARY SEWER MANHOLE |
| | | CULVERT END |
| | | DISTRIBUTION POLE |
| | | UTILITY POLE WITH LUMINAIRE |
| | | GUY ANCHOR |
| | | EJB ELECTRICAL JUNCTION BOX |
| | | TJB TELEPHONE JUNCTION BOX |
| | | TMH TELEPHONE MANHOLE |
| | | TSJB TRAFFIC SIGNAL JUNCTION BOX |
| | | TRAFFIC SIGNAL POLE |
| | | GV GAS VALVE |
| | | GM GAS METER |
| | | WM WATER METER |
| | | WATER VAULT |
| | | FH FIRE HYDRANT |
| | | WV WATER VALVE |
| | | SCV SPRINKLER CONTROL VALVE |
| | | BOV BLOW OFF VALVE |
| | | WVM WATER VALVE MARKER |
| | | SIGN |
| | | B BOLLARD |
| | | MB MAILBOX |
| | | MW MONITORING WELL |
| | | SOIL LOG / TEST PIT |
| | | DP DATA POINT |
| | | WETLAND FLAG |
| | | SHRUB |
| | | DECIDUOUS TREE |
| | | CONIFEROUS TREE |
| | | RIP RAP |
| | | SLOPE CUT |
| | | ROCKERY |
| | | BUILDING |
| | | BORING |
| | | POT HOLE |

TYPICAL SECTION AND DETAIL REFERENCE SYSTEM



DETAILS ARE REFERENCED IN A SIMILAR MANNER EXCEPT NUMBERS ARE USED INSTEAD OF LETTERS

MATERIAL SYMBOLS

| | |
|--|---|
| | HOT MIX ASPHALT REPAIR (PLAN) |
| | HOT MIX ASPHALT, ASPHALT TREATED BASE (SECTION) |
| | BALLAST |
| | CONCRETE |
| | QUARRY SPALLS |
| | SUBGRADE, EXIST GROUND, NATIVE SOIL |
| | TOPSOIL |
| | CSBC |
| | STREAMBED GRAVEL |
| | STREAMBED COBBLE |
| | DEMOLITION/REMOVAL |

LINE TYPES

| | |
|--|---|
| | UTILITY EASEMENT |
| | CENTERLINE (ROW, BOX CULVERT) |
| | EDGE OF ROW |
| | PROPERTY LINE |
| | FENCE (EXISTING) |
| | FENCE (NEW) |
| | GAS (EXISTING) |
| | POWER, UNDERGROUND (EXISTING) |
| | POWER, OVERHEAD (EXISTING) |
| | SANITARY SEWER (EXISTING) |
| | TELEPHONE (BURIED) (EXISTING) |
| | WATER (EXISTING) |
| | STORM DRAINAGE (EXISTING) |
| | STORM DRAINAGE (NEW) |
| | CULVERT |
| | DITCH/SWALE/STREAM CENTERLINE |
| | EXISTING GROUND (PROFILE) |
| | SILT FENCE |
| | ORANGE BARRIER FENCE |
| | TEMPORARY CHAIN LINK CONSTRUCTION FENCE |
| | FIBER OPTIC (BURIED) |
| | TELEPHONE (BURIED) |
| | CITY BOUNDARY |

ABBREVIATIONS

| | | | |
|-------------|--|-------|---|
| AC | ASPHALT CONCRETE | S | SOUTH, SLOPE |
| ACP | ASPHALT CONCRETE PAVEMENT | SCL | SEATTLE CITY LIGHT |
| APPROX. | APPROXIMATE, APPROXIMATELY | SD | STORM DRAIN |
| ASTM | AMERICAN SOCIETY FOR TESTING AND MATERIALS | SDMH | STORM DRAIN MANHOLE |
| ATB | ASPHALT TREATED BASE | SE | SOUTHEAST |
| AVE | AVENUE | SPU | SEATTLE PUBLIC UTILITIES |
| | | SQFT. | SQUARE FEET |
| | | SS | SANITARY SEWER |
| BFO | BURIED FIBER OPTIC | SSMH | SANITARY SEWER MANHOLE |
| BOW | BOTTOM OF WALL | ST | STREET |
| BT | BURIED TELEPHONE | STA | STATION |
| BTM | BOTTOM | STD | STANDARD |
| | | SW | SOUTHWEST |
| C | CABLE | T | TANGENT, TOP, TOWNSHIP, TELEPHONE |
| CL | CENTERLINE | TBD | TO BE DETERMINED |
| CB | CATCH BASIN | TOP | TOP, TOP OF PIPE |
| CC | COMCAST CABLE CO. | TOW | TOP OF WALL |
| CDF | CONTROLLED DENSITY FILL | TV | TELEVISION |
| CLF | CHAIN LINK FENCE | TYP | TYPICAL |
| CMP | CORRUGATED METAL PIPE | | |
| COMM. | COMMUNICATIONS LINE | UP | UTILITY POLE |
| CONC | CONCRETE | | |
| CPEP | CORRUGATED POLYETHYLENE PIPE | VERT | VERTICAL |
| CSBC | CRUSHED SURFACING BASE COURSE | | |
| CSTC | CRUSHED SURFACING TOP COURSE | W | WEST, WATER |
| CULV | CULVERT | W/ | WITH |
| | | WSDOT | WASHINGTON STATE DEPARTMENT OF TRANSPORTATION |
| DET | DETAIL | | |
| DI | DUCTILE IRON | | |
| DIA OR DIAM | DIAMETER | | |
| DIST. | DISTRICT | | |
| DWG | DRAWING | | |
| E | EAST | | |
| EL, ELEV | ELEVATION | | |
| ESC | EROSION AND SEDIMENT CONTROL | | |
| EXIST, EX | EXISTING | | |
| FF | FINISHED FLOOR | | |
| FO | FIBER OPTIC | | |
| FT | FOOT OR FEET | | |
| G | GAS | | |
| GE | GRATE ELEVATION | | |
| GIS | GEOGRAPHIC INFORMATION SYSTEM | | |
| HORIZ | HORIZONTAL | | |
| HMA | HOT MIX ASPHALT | | |
| IE | INVERT ELEVATION | | |
| INV. | INVERT | | |
| IN | INCHES | | |
| KC | KING COUNTY | | |
| L | LENGTH, LEFT | | |
| LF | LINEAR FEET | | |
| LFP | LAKE FOREST PARK | | |
| MAX | MAXIMUM | | |
| MFR | MANUFACTURER | | |
| MH | MANHOLE | | |
| MIN | MINIMUM | | |
| MON | MONUMENT | | |
| N | NORTH | | |
| NCWD | NORTH CITY WATER DISTRICT | | |
| NE | NORTHEAST | | |
| NO. | NUMBER | | |
| NTS | NOT TO SCALE | | |
| NW | NORTHWEST | | |
| O.C. | ON CENTER | | |
| PSE | PUGET SOUND ENERGY | | |
| PVC | POLYVINYL CHLORIDE | | |
| PVMT | PAVEMENT | | |
| P | POWER | | |
| R | RIGHT | | |
| RCP | REINFORCED CONCRETE PIPE | | |
| ROW | RIGHT-OF-WAY | | |
| RWD | RONALD WASTEWATER DISTRICT | | |

| Initials | Date | Description |
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| JTE | 12/31/19 | |
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| MSG | 12/31/19 | |

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
LEGEND AND ABBREVIATIONS

Project No. _____

Dwg **G2**

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LAKE FOREST PARK STANDARD PLAN NOTES

1. THE CONTRACTOR SHALL ADHERE TO ALL APPLICABLE NOTES UNLESS OTHERWISE DIRECTED BY THESE PLANS, THE ENGINEER OR A CITY OF SHORELINE REPRESENTATIVE.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. ALL WORK SHALL COMPLY WITH, IN ORDER OF PRECEDENCE:
 - * THE CITY OF LAKE FOREST PARK "ENGINEERING AND CONSTRUCTION STANDARDS", 2011.
 - * KING COUNTY "KING COUNTY ROAD STANDARDS", 2016.
 - * KING COUNTY "KING COUNTY SURFACE WATER DESIGN MANUAL", 2016.
 - * WSDOT/APWA "2020 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" (WSDOT/APWA).
3. THE CONTRACTOR SHALL VERIFY ALL EXISTING DATA SHOWN IN THESE DOCUMENTS AND NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED FEATURES PRIOR TO CONSTRUCTION.
4. ALL COMPACTION METHODS, MATERIALS AND PERFORMANCE CRITERIA SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
5. ALL EXISTING AND PROPOSED CATCH BASINS DOWNSTREAM OF DISTURBED AREAS SHALL BE PROTECTED DURING CONSTRUCTION PER THE WSDOT STD PLAN I-7.
6. ALL PIPE LENGTHS, INVERT ELEVATIONS AND DRAINAGE STRUCTURE LOCATIONS ARE MEASURED AT THE CENTER OF THE DRAINAGE STRUCTURE UNLESS NOTED OTHERWISE.
7. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND AVOID EXISTING UTILITIES, INCLUDING OTHER UTILITIES NOT SHOWN ON THE PLANS. EXISTING UTILITIES SHALL BE PROTECTED, SUPPORTED, OR MAINTAINED DURING CONSTRUCTION.
8. CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (811 / WWW.CALL811.COM) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
9. ALL WORK SHALL CONFORM TO THESE APPROVED PLANS AND SPECIFICATIONS, THE LAKE FOREST PARK MUNICIPAL CODE, THE ENGINEERING DEVELOPMENT MANUAL, AND FEDERAL AND STATE REQUIREMENTS.

GENERAL NOTES

1. THE CITY OF SHORELINE IS THE PROJECT PROPONENT. AS A PROJECT PROPONENT THE CITY OF SHORELINE WILL BE A JOINT REVIEWER OF MOST CONSTRUCTION ACTIVITIES AND SUBMITTALS. REFERENCES TO ENGINEER INCLUDE BOTH THE CITY OF LAKE FOREST PARK AND CITY OF SHORELINE.
2. MAINTAIN CONVEYANCE OF STORM DRAINAGE AND STREAM FLOWS DURING CONSTRUCTION AND DURING THE REPLACEMENT, MODIFICATION OR RESTORATION OF EXISTING FACILITIES IN ACCORDANCE WITH CONTRACTOR'S APPROVED BYPASS PLAN. SEE SPECIAL PROVISIONS.
3. OVERHEAD ELECTRICAL POWER, TELEPHONE, CABLE TV, AND OTHER OVERHEAD LINES ARE APPROXIMATELY SHOWN. DETERMINE THE EXTENT OF HAZARDS OR IMPACTS ON CONSTRUCTION ACTIVITIES CREATED BY OVERHEAD OR UNDERGROUND ELECTRICAL POWER, TELEPHONE, CABLE TV, AND OTHER LINES IN ALL AREAS, AND FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATIONS. TAKE PRECAUTIONS AND REMEDIAL MEASURES THAT MAY BE REQUIRED TO PROTECT PERSONS AND PROPERTY AND TO AVOID DISRUPTION OF SERVICE.
4. NO WORK SHALL COMMENCE PRIOR TO A PRE-CONSTRUCTION CONFERENCE.
5. CONTRACTOR TO PROVIDE CONTINUOUS ACCESS FOR EMERGENCY VEHICLES AND HOMEOWNERS DURING CONSTRUCTION.
6. DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
7. WORK IN BALLINGER CREEK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THE HYDRAULIC PROJECT APPROVAL (HPA) PERMIT OBTAINED BY THE CITY OF SHORELINE/ LAKE FOREST PARK. WORK SHALL BE LIMITED TO THE DESIGNATED TIME FRAME AS STATED IN THE APPROVED HPA, A COPY OF WHICH IS INCLUDED IN THE SPECIAL PROVISIONS, APPENDIX A.

SITE NOTES (SN)

- SN.1. THE CONTRACTOR SHALL HAVE ANY REQUIRED PERMIT(S) AND CONDITIONS AND THE APPROVED PLANS AVAILABLE AT THE JOB SITE.
- SN.2. ALL INSTALLATION METHODS AND MATERIALS SHALL MEET THE WSDOT/APWA STANDARD SPECIFICATIONS UNLESS SUPERCEDED BY THESE PLANS AND SPECIFICATIONS.
- SN.3. ANY CHANGES FROM THE APPROVED PLANS REQUIRE PRE-APPROVAL FROM THE ENGINEER.
- SN.4. THE CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR WORKER SAFETY AND DAMAGE FROM CONSTRUCTION OPERATIONS TO STRUCTURES AND OTHER IMPROVEMENTS.
- SN.5. SURVEYING FOR PUBLIC FACILITIES SHALL BE PERFORMED UNDER THE DIRECTION OF A WASHINGTON LICENSED LAND SURVEYOR. VERTICAL DATUM SHALL BE NAVD 1988. HORIZONTAL DATUM SHALL BE WASHINGTON STATE (GRID) COORDINATES, NORTH ZONE, USING NAD 83/91 SURVEY CONTROL AND TO ANY TWO CITY OF SHORELINE HORIZONTAL CONTROL MONUMENTS. FOR PROJECTS WITHIN A FLOOD CONTROL ZONE, THE SURVEYOR SHALL PROVIDE CONVERSION CALCULATIONS TO NGVD 1929.
- SN.6. REPLACE OR RELOCATE ALL SIGNS, STRIPING, POLES AND OTHER ITEMS IN THE RIGHT-OF-WAY THAT ARE DAMAGED OR REMOVED DURING CONSTRUCTION.
- SN.7. RETAIN, REPLACE OR RESTORE ALL VEGETATION IN RIGHTS-OF-WAY, EASEMENTS, AND ACCESS TRACTS DISTURBED DURING CONSTRUCTION.
- SN.8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY USE PERMIT, TO BE REVIEWED PRIOR TO CONSTRUCTION AND INSPECTED DURING CONSTRUCTION.
- SN.9. THE CONTRACTOR SHALL RESTORE CRITICAL AREAS AND PUBLIC AND PRIVATE PROPERTY DAMAGED BY CONTRACTOR'S OPERATIONS TO CURRENT STANDARDS.
- SN.10. AT ALL TIMES MAINTAIN ACCESS TO BUILDINGS FOR FIRE, PEDESTRIAN AND VEHICULAR ACCESS.
- SN.11. ALL UTILITY TRENCHES AND ROADWAY SUBGRADES WITHIN CITY RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH KING COUNTY ROAD STANDARDS WITH 100% CRUSHED SURFACING COURSE OR CONTROLLED DENSITY FILL (CDF).
- SN.12. WHERE TREES ARE SHOWN TO BE PROTECTED, CONTRACTOR TO SET FLAGGING AROUND TREE AT DROP LINE UNLESS OTHERWISE DIRECTED BY ENGINEER.

TRAFFIC CONTROL NOTES (TC)

- TC.1. MAINTENANCE OF TRAFFIC: A PRELIMINARY TRAFFIC CONTROL PLAN HAS BEEN PREPARED TO SECURE PROJECT PERMITS AND IS INCLUDED AS PART OF THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED ROADS.
- TC.2. ANY CHANGE TO THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY WSDOT AND LAKE FOREST PARK 10 DAYS PRIOR TO BEGINNING THE WORK. TRAFFIC CONTROL SHALL FOLLOW THE GUIDELINES OF SECTION 1-07.23 OF THE WSDOT/APWA STANDARD SPECIFICATIONS AS AMENDED BY THESE PLANS AND SPECIFICATIONS.
- TC.3. ALL BARRICADES, SIGNS AND FLAGGING SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD. FOR MORE SPECIFIC REQUIREMENTS FOR BARRICADES, SEE SECTION 5.7 AND DRAWING NO. 5-003 OF KING COUNTY ROAD STANDARDS. SIGNS MUST BE LEGIBLE AND VISIBLE AND SHALL BE REMOVED AT THE END OF EACH WORK DAY IF NOT APPLICABLE AFTER CONSTRUCTION HOURS.
- TC.4. TEMPORARY ROAD CLOSURES AND DETOURS: WHEN TEMPORARY ROAD CLOSURES CANNOT BE AVOIDED THE CONTRACTOR SHALL POST "TO BE CLOSED" SIGNS A MINIMUM OF FIVE DAYS PRIOR TO THE CLOSING. THE TYPES AND LOCATIONS OF THE SIGNS SHALL BE SHOWN ON A DETOUR PLAN.
- TC.5. A DETOUR PLAN MUST BE PREPARED AND SUBMITTED TO THE CITY OF LAKE FOREST PARK AND WSDOT AT LEAST 10 WORKING DAYS IN ADVANCE, AND APPROVED PRIOR TO CLOSING ANY CITY ROAD. IN ADDITION, THE CONTRACTOR MUST NOTIFY, IN WRITING, LOCAL FIRE, SCHOOL, LAW ENFORCEMENT AUTHORITIES, METRO TRANSIT, AND ANY OTHER AFFECTED PERSONS AS DIRECTED BY THE ENGINEER AT LEAST FIVE DAYS PRIOR TO CLOSING.
- TC.6. A HAUL ROUTE PLAN MUST BE SUBMITTED TO THE CITY OF LAKE FOREST PARK AND WSDOT FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. THE HAUL ROUTE PLAN SHALL ADDRESS ROUTING, HOURS OF OPERATION, SIGNAGE AND FLAGGING, AND DAILY MAINTENANCE.
- TC.7. IF THE CONTRACTOR'S TRAFFIC FAILS TO USE THE DESIGNATED HAUL ROUTE, THE ENGINEER MAY PROHIBIT OR LIMIT FURTHER WORK ON THE DEVELOPMENT UNTIL SUCH TIME AS THE REQUIREMENTS OF THE HAUL ROUTE ARE COMPLIED WITH.
- TC.8. FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. INTERRUPTION OF NORMAL TRAFFIC FLOW SHALL REQUIRE TRAFFIC CONTROL.
- TC.9. CONTRACTOR SHALL PROTECT EXISTING TRAFFIC CONTROL SIGNS WITHIN THE LIMITS OF WORK.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
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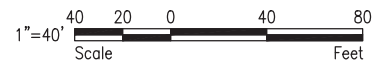
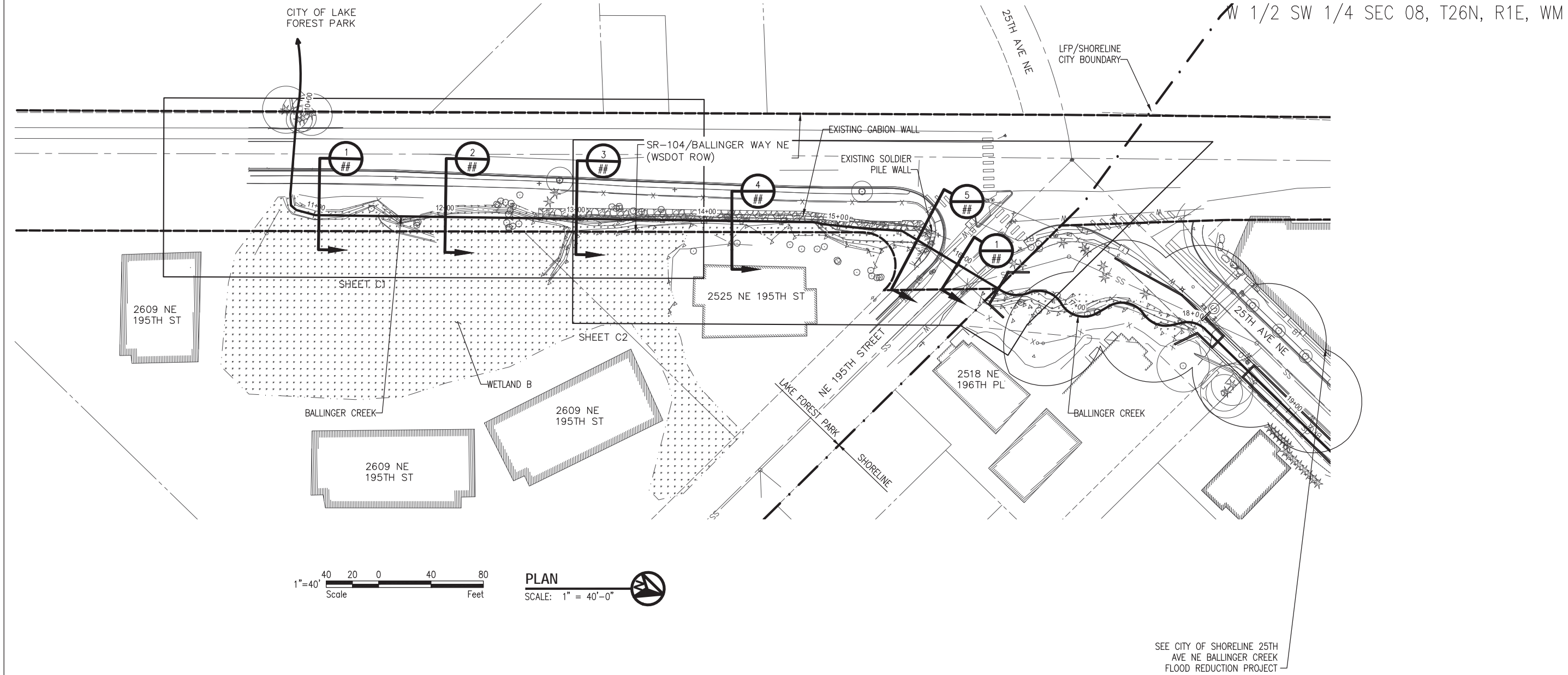
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CITY OF LAKE FOREST PARK

W 1/2 SW 1/4 SEC 08, T26N, R1E, WM



PLAN
SCALE: 1" = 40'-0"

SEE CITY OF SHORELINE 25TH AVE NE BALLINGER CREEK FLOOD REDUCTION PROJECT

DATUM / PROJECT CONTROL

LEGAL DESCRIPTION:
PORTION OF THE W. 1/2 OF THE SW. 1/4 OF SECTION 8, TOWNSHIP 26 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CITY OF LAKE FOREST PARK, KING COUNTY, STATE OF WASHINGTON.

HORIZONTAL DATUM / BASIS OF BEARINGS:
NORTH AMERICAN DATUM OF 1983 (ADJUSTED 1991) - NAD83(91). WASHINGTON STATE PLANE COORDINATE SYSTEM - NORTH ZONE.
NORTH 04°21'48" EAST ALONG THE WEST LINE OF THE SW. 1/4 OF SECTION 8 (CENTERLINE OF MERIDIAN AVENUE NORTH).

VERTICAL DATUM / BASIS OF ELEVATIONS:
NORTH AMERICAN VERTICAL DATUM OF 1988 - NAVD88.
DATES OF FIELD SURVEYS: 07/25/2018, 08/06/2018 BY 1ALLIANCE GEOMATICS.

BUILDING OUTLINES HAVE BEEN DIGITIZED FROM GIS AERIAL 2019 AND ARE APPROXIMATE ONLY.

| Initials | Date | Description |
|----------|----------|-------------|
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CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
GENERAL ARRANGEMENT PLAN
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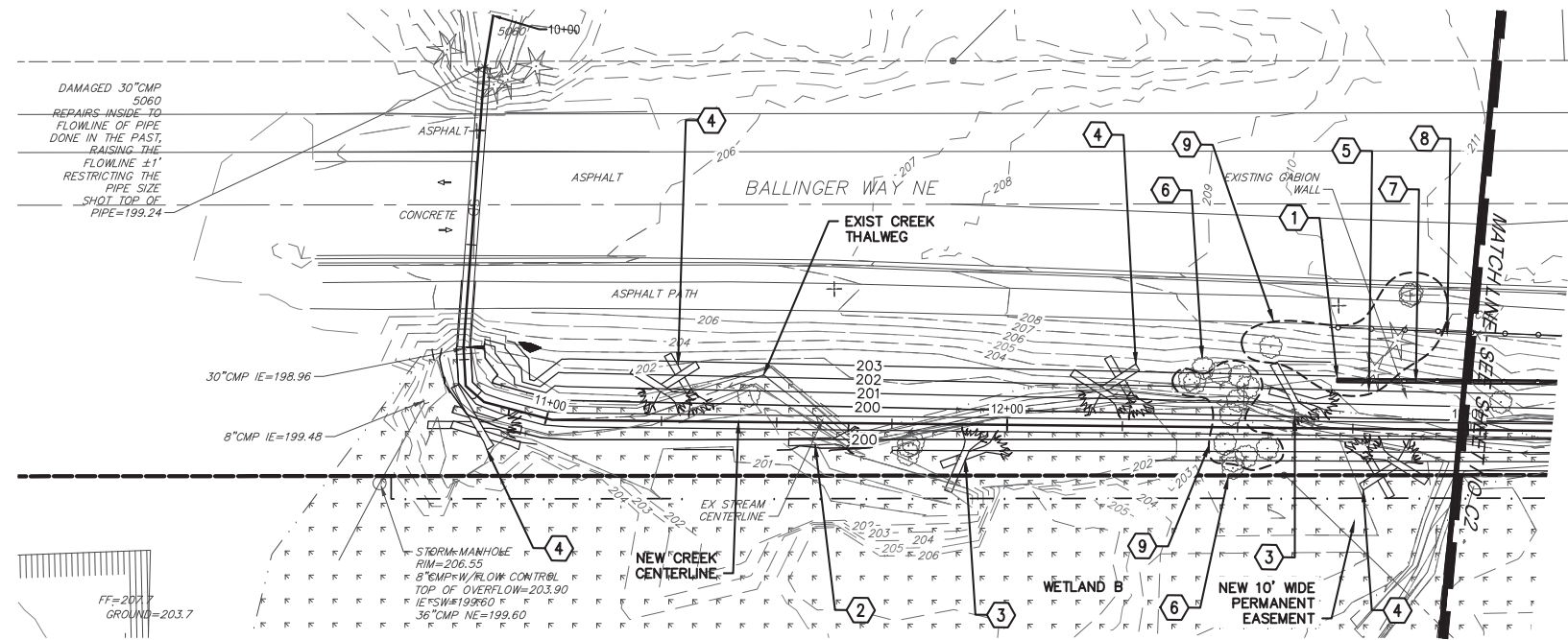
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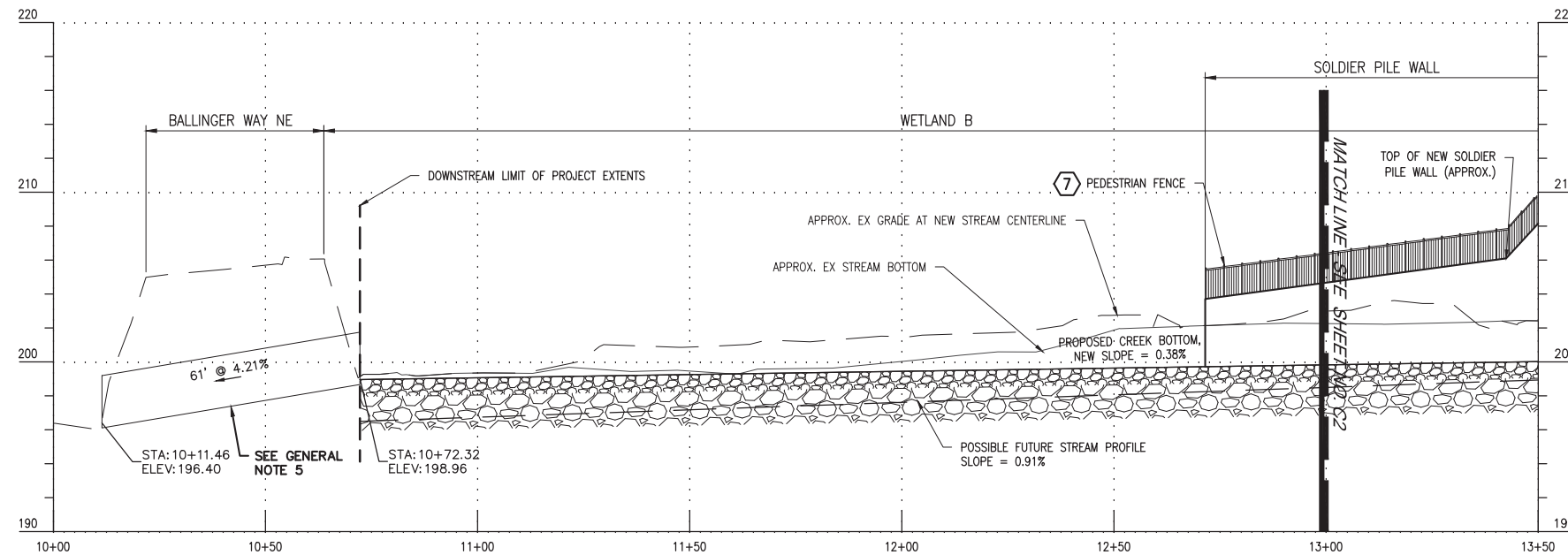


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VERIFY SCALE - BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" - IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



PLAN
SCALE: 1" = 20'-0"

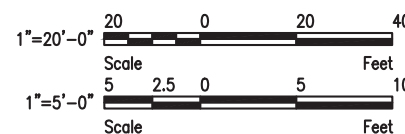


PROFILE PROPOSED BALLINGER CREEK_LFP 1, STA 10+00 TO 13+50

PROFILE
HORIZ SCALE: 1" = 20'-0"
VERT SCALE: 1" = 5'-0"

KEYED NOTES

- ① NEW SOLIDER PILE WALL (TO REPLACE GABION WALL) SEE DWGS S1 THROUGH S14.
- ② HABITAT LOG, TYP. SEE DETAIL 1 ON DWG C6. QTY=1.
- ③ HABITAT LOG STRUCTURE TYPE 1, TYP. SEE DETAIL 2 ON DWG C6. QTY=2.
- ④ HABITAT LOG STRUCTURE TYPE 2, TYP. SEE DETAIL 3 ON DWG C6. QTY=4.
- ⑤ REMOVE EXISTING GABION WALL FROM APPROX STA 12+70 TO 15+70. SEE SPECIFICATIONS FOR ORIGINAL 1980 GABION WALL DESIGN INFORMATION.
- ⑥ PROTECT EXISTING TREES.
- ⑦ INSTALL TYPE 3 PEDESTRIAN FENCE PER WSDOT STANDARD DETAIL L-20.10-03.
- ⑧ REMOVE EXISTING CHAIN LINK FENCE TO PROVIDE ACCESS FOR NEW WALL. REPLACE WITH TYPE 3 PEDESTRIAN FENCE PER WSDOT STANDARD DETAIL L-20.10-03.
- ⑨ REMOVE EXISTING TREE.



GENERAL NOTES

1. ALL WORK THIS SHEET IS WITHIN CITY OF LAKE FOREST PARK.
2. LIMIT DISTURBANCE TO ONLY THOSE AREAS NECESSARY FOR CONSTRUCTING THE PROPOSED IMPROVEMENTS.
3. SEE CHANNEL SECTIONS ON DWG C4.
4. PROTECT EXISTING LANDSCAPING AND VEGETATION. WHERE DISTURBED OR REMOVED DURING CONSTRUCTION, RESTORE SURFACE FEATURES IN KIND.
5. EXISTING 30" DIA CMP CULVERT IS LISTED ON WSDOT FISH PASSAGE REPLACEMENT PROGRAM AND WILL LIKELY BE REPLACED PRIOR TO 2030. IT IS ANTICIPATED THAT REPLACEMENT CULVERT WILL NEED TO BE DEEPER AT ITS INLET TO MEET FISH PASSAGE REQUIREMENTS. THE PROFILE FOR BALLINGER CREEK COULD BE LOWERED AT THAT TIME AND A POSSIBLE FUTURE STREAM PROFILE IS SHOWN.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |

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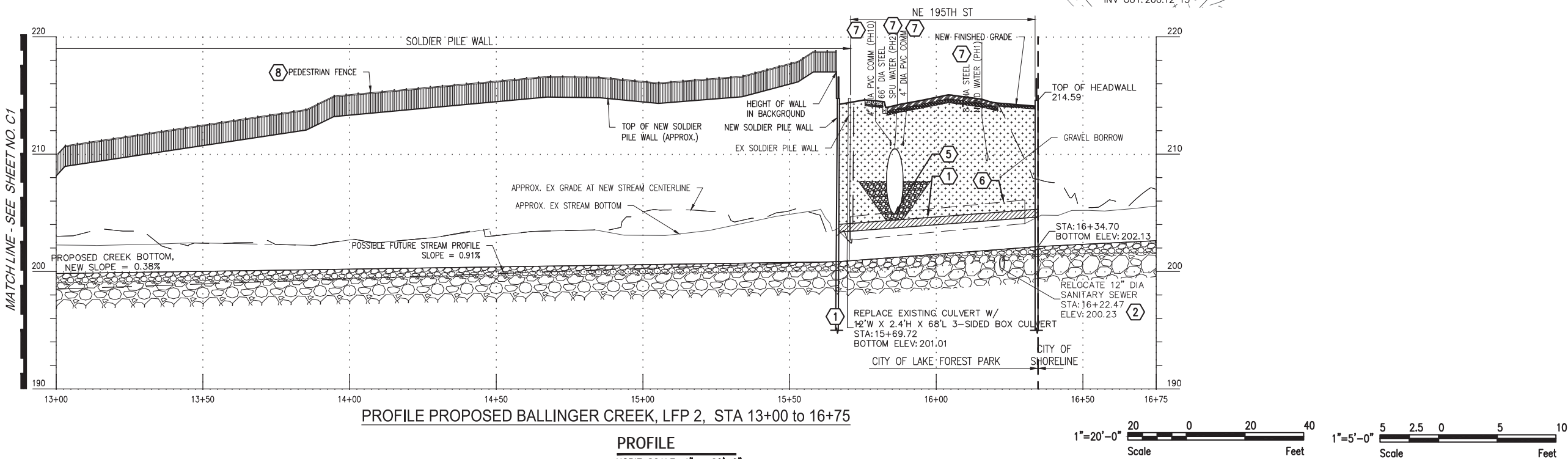
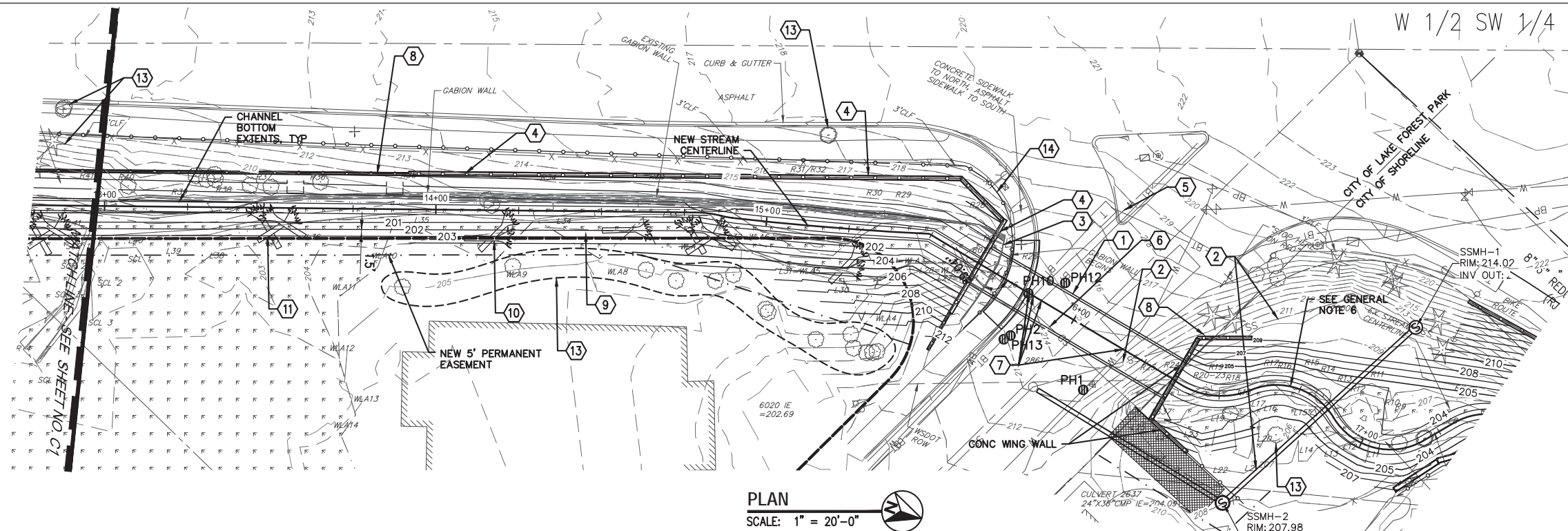
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(206) 801-2700

NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
 STREAM AND CULVERT PLAN AND
 PROFILE - SHEET 1 OF 2



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VERIFY SCALE - BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



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- KEYED NOTES**
- 1 3-SIDED BOX CULVERT SPECIALLY DESIGNED TO HAVE MINIMUM TOP SLAB THICKNESS (8" MAX).
 - 2 REMOVE APPROX 25 LF 12" DIA SEWER AT NEW CULVERT CROSSING. ABANDON REMAINING SEWER BETWEEN MANHOLES 20000 AND 2861 BY FILLING W/ CDF. INSTALL APPROX 145 LF NEW 15" DIA SEWER. SEE PLAN AND PROFILE ON DWG C5 FOR SEWER RELOCATION. FILL MANHOLE 20000 WITH CDF AND ABANDON.
 - 3 REMOVE AND REPLACE SECTIONS OF EXISTING SOLDIER PILE WALL. SEE DWGS S-1 THROUGH S-14.
 - 4 NEW SOLDIER PILE WALL (TO REPLACE GABION WALL AND EXISTING SOLDIER PILE WALL) SEE DWGS S-1 THROUGH S-14.
 - 5 SPU EXISTING 66" DIA WATER MAIN. INVERT SHOWN IS AT EAST EDGE OF NEW CULVERT, NOT CENTERLINE OF STREAM ALIGNMENT.
 - 6 REMOVE AND DISPOSE OF EXISTING CULVERT.

- 7 PROTECT AND PROVIDE TEMPORARY SUPPORT OF UTILITIES DURING CONSTRUCTION OF CULVERT.
- 8 INSTALL PEDESTRIAN FENCE PER WSDOT STANDARD DETAIL L-20.10-03.
- 9 HABITAT LOG, TYP. SEE DETAIL 1 ON DWG C6. QTY=1.
- 10 HABITAT LOG STRUCTURE TYPE 1, TYP. SEE DETAIL 2 ON DWG C6. QTY=2.
- 11 HABITAT LOG STRUCTURE TYPE 2, TYP. SEE DETAIL 3 ON DWG C6. QTY=2.
- 12 REMOVE EXISTING GABION WALL FROM APPROX STA 12+70 TO 15+70. SEE SPECIFICATIONS FOR ORIGINAL 1980 GABION WALL DESIGN INFORMATION.
- 13 PROTECT EXISTING TREE.
- 14 REMOVE EXISTING CHAIN LINK FENCE TO PROVIDE ACCESS FOR NEW WALL. REPLACE WITH TYPE 3 PEDESTRIAN FENCE PER WSDOT STANDARD DETAIL L-20.10-03.

- GENERAL NOTES**
1. SEE NE 195TH ST CULVERT ENLARGED PLAN AND PROFILE ON DWG C3.
 2. LIMIT DISTURBANCE TO ONLY THOSE AREAS NECESSARY FOR CONSTRUCTING THE PROPOSED IMPROVEMENTS.
 3. SHORING/TRENCH BOXES ARE REQUIRED FOR ANY UTILITY WORK. CUT SLOPES AT STEEPER THAN 1H:1V WILL NOT BE ALLOWED.
 4. ALL PATCHING OF FLEXIBLE PAVEMENT SHALL BE PER CITY OF LAKE FOREST PARK STANDARD DETAIL 2.14 UNLESS OTHERWISE NOTED.
 5. PROTECT EXISTING LANDSCAPING AND VEGETATION. WHERE DISTURBED OR REMOVED DURING CONSTRUCTION, RESTORE SURFACE FEATURES IN KIND.
 6. 60% PLANS SHOW FUTURE PROPOSED STREAM CHANNEL DESIGN THAT WILL BE PART OF THE CITY OF SHORELINE 25TH AVE NE BALLINGER CREEK FLOOD REDUCTION PROJECT. WHETHER OR NOT THESE IMPROVEMENTS WILL BE IN PLACE DEPENDS ON PROJECT PHASING. IF THIS PROJECT PRECEDES THE SHORELINE PROJECT THERE WILL NEED TO BE A ROUGHENED/ROCK LINED CHANNEL TRANSITION.
 7. SEE GENERAL NOTE 5 ON DWG C1.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |

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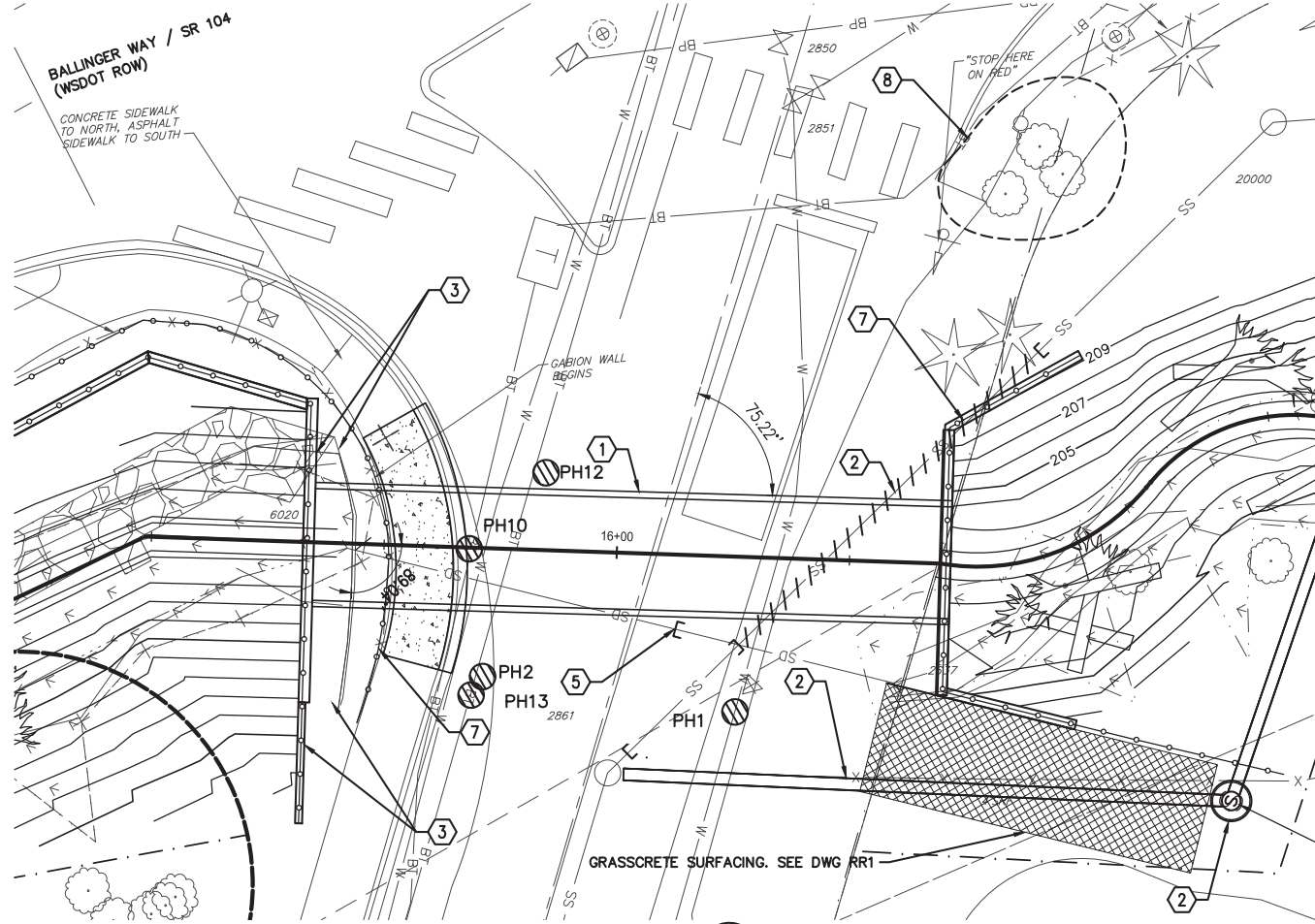
NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
STREAM AND CULVERT PLAN AND
PROFILE - SHEET 2 OF 3

Project No. _____

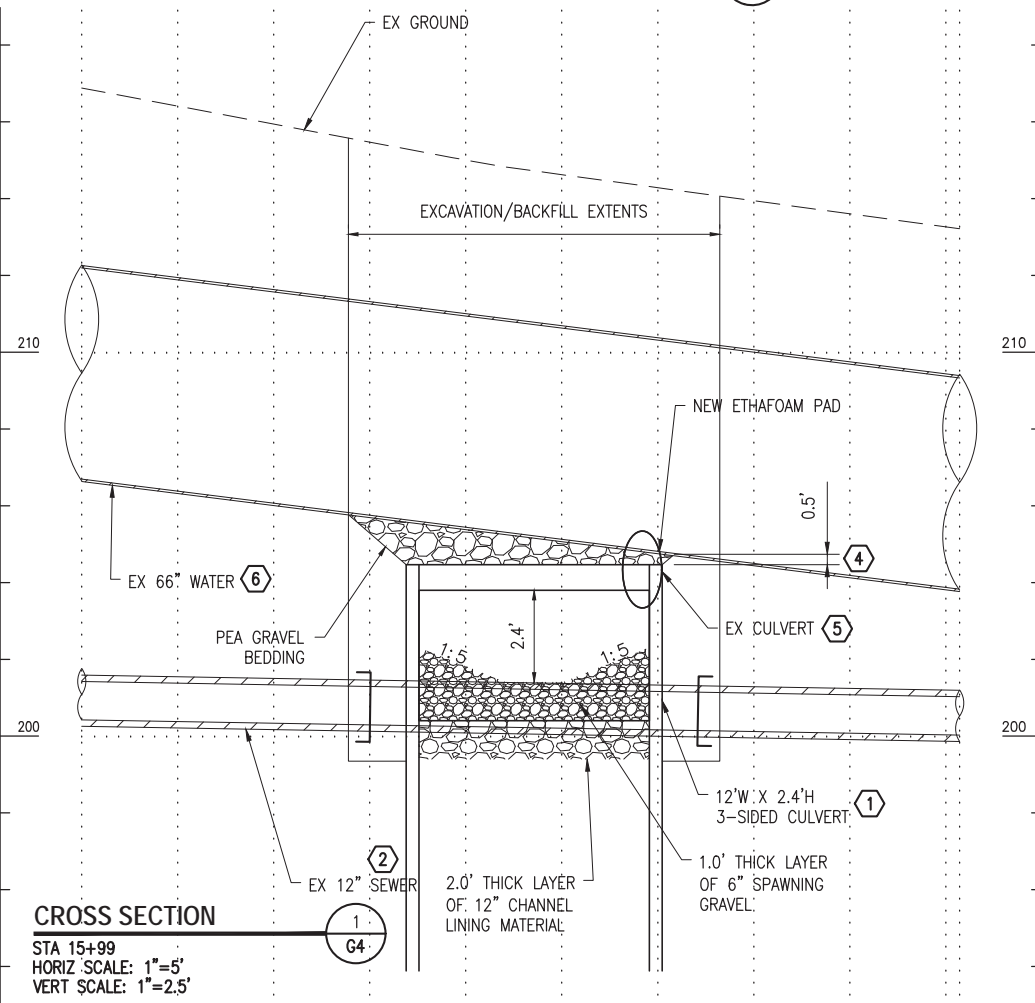
Dwg **C2**



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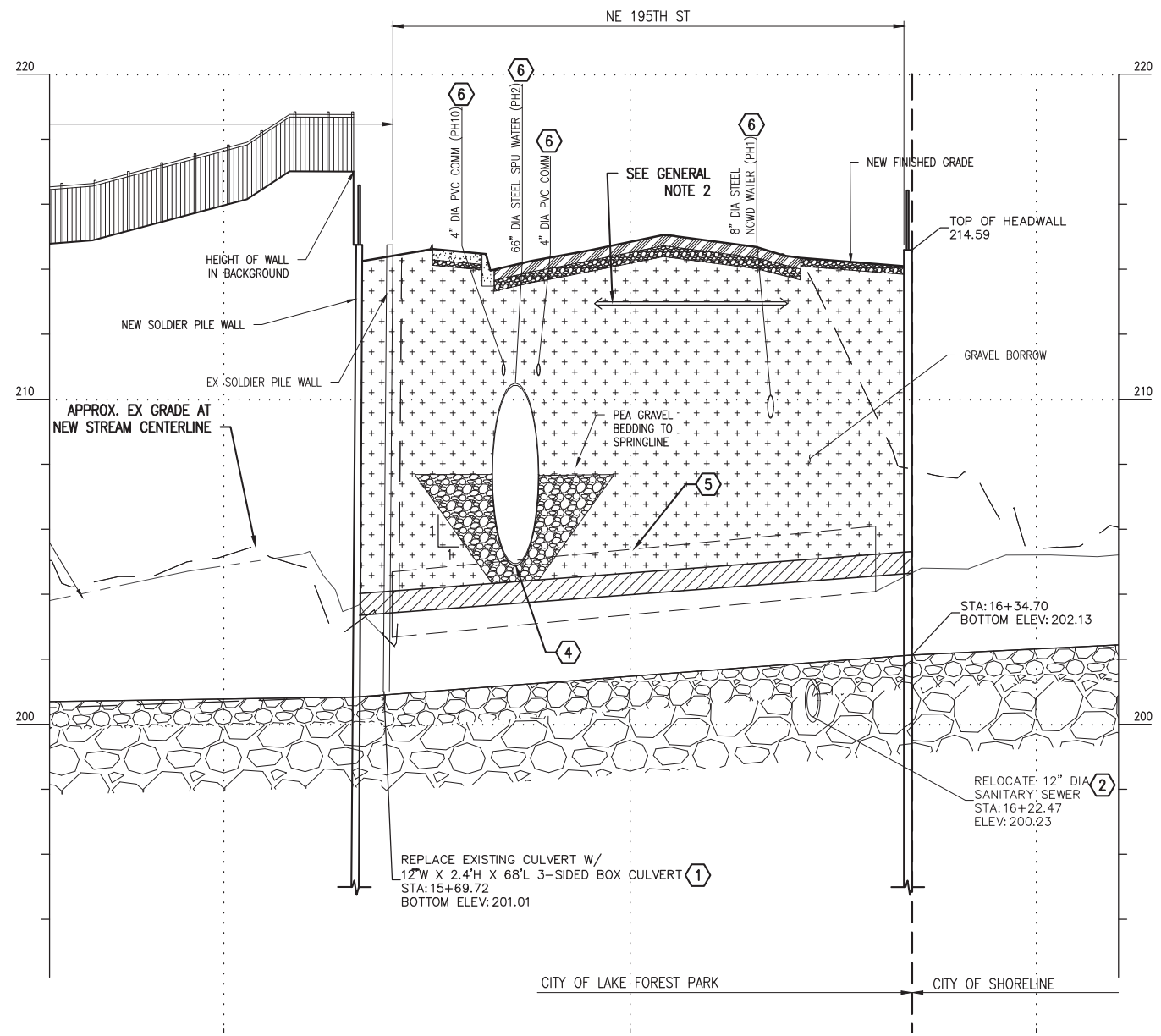


PLAN
SCALE: 1" = 10'-0"



CROSS SECTION

STA 15+99
HORIZ SCALE: 1"=5'
VERT SCALE: 1"=2.5'



PROFILE

HORIZ SCALE: 1" = 10'-0"
VERT SCALE: 1" = 2'-6"

KEYED NOTES

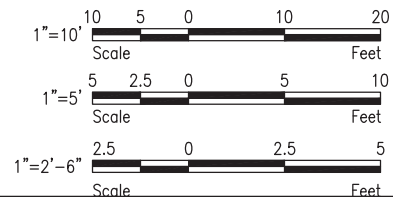
- ① 12' W X 2.4' H X 65' L 3-SIDED CULVERT. SEE SHEETS S-1 THROUGH S-14 FOR CULVERT AND WING WALL STRUCTURE PLANS, ELEVATIONS, AND SECTIONS.
- ② REMOVE APPROX 45 LF 12" DIA SEWER AT NEW CULVERT CROSSING. ABANDON REMAINING SEWER BY FILLING W/ CDF. INSTALL APPROX 145 LF NEW 15" DIA SEWER. SEE PLAN AND PROFILE ON DWG C5 FOR SEWER RELOCATION.
- ③ REMOVE AND REPLACE EXISTING SOLDIER PILE WALL. SEE SHEETS S-1 THROUGH S-14.
- ④ SPU EXISTING 66" WATERLINE ALIGNMENT AT EAST CULVERT EDGE, NOT CENTERLINE OF STREAM ALIGNMENT. PROVIDE 0.5' MINIMUM CLEARANCE BETWEEN TOP OF CULVERT AND SPU PIPE. SEE GENERAL NOTE 1.
- ⑤ REMOVE AND DISPOSE OF APPROX 20 LF EXISTING 24"X36" CMP CULVERT TO ELIMINATE CONFLICT WITH NEW SOLDIER PILES.

REMAINDER OF CULVERT TO SOUTH TO BE REMOVED. REMAINDER OF CULVERT TO NORTH TO BE ABANDONED AND FILLED W/ CDF.

- ⑥ PROTECT AND PROVIDE TEMPORARY SUPPORT OF UTILITIES DURING CONSTRUCTION OF BOX CULVERT.
- ⑦ INSTALL 4.0' HIGH PEDESTRIAN FENCE PER WSDOT STANDARD PLAN L-20.10-03.
- ⑧ PROTECT EXISTING TREES.

GENERAL NOTES

1. CONTRACTOR SHALL SUBMIT A SHORING AND TEMPORARY SUPPORT PLAN FOR TEMPORARY SUPPORT AND PROTECTION OF EXISTING 66" DIAMETER STEEL SPU WATER MAIN. PLAN SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WASHINGTON NO LESS THAN THREE WEEKS PRIOR TO CONSTRUCTION. COORDINATE WORK WITH SPU CONTACT RYAN MANNING AT 206-684-0127. SPU SHALL HAVE A REPRESENTATIVE ON SITE WHEN WATER LINE IS EXPOSED.
2. WALL TIEBACKS NOT SHOWN FOR CLARITY. SEE DWG S-11 FOR INFORMATION.
3. PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH LFP STD DTL 2.15 WITH EXCEPTION THAT GRAVEL BORROW SHALL BE USED IN PLACE OF CDF.



| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |

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**NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
195TH ST CULVERT PLAN, SECTION,
AND PROFILE**

Project No. _____

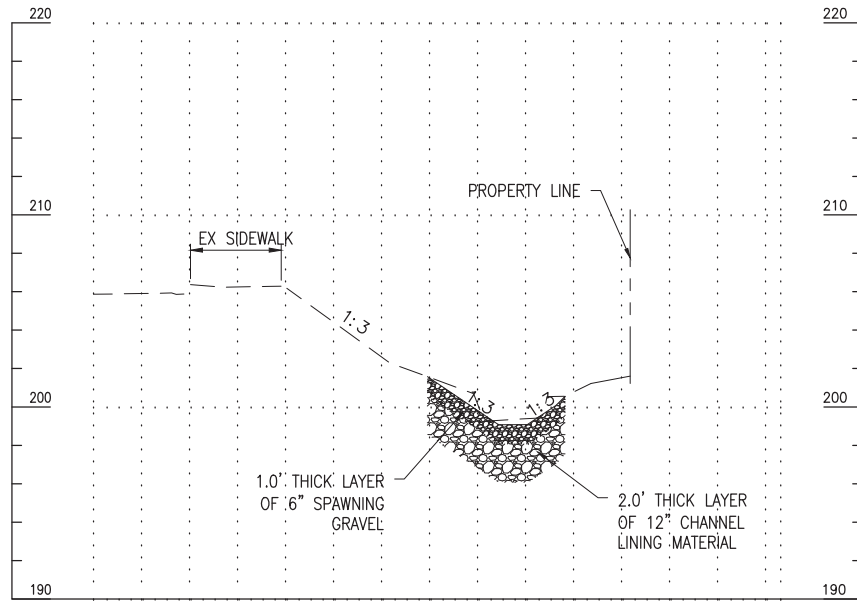
Dwg **C3**

Sheet **7** Of **36**

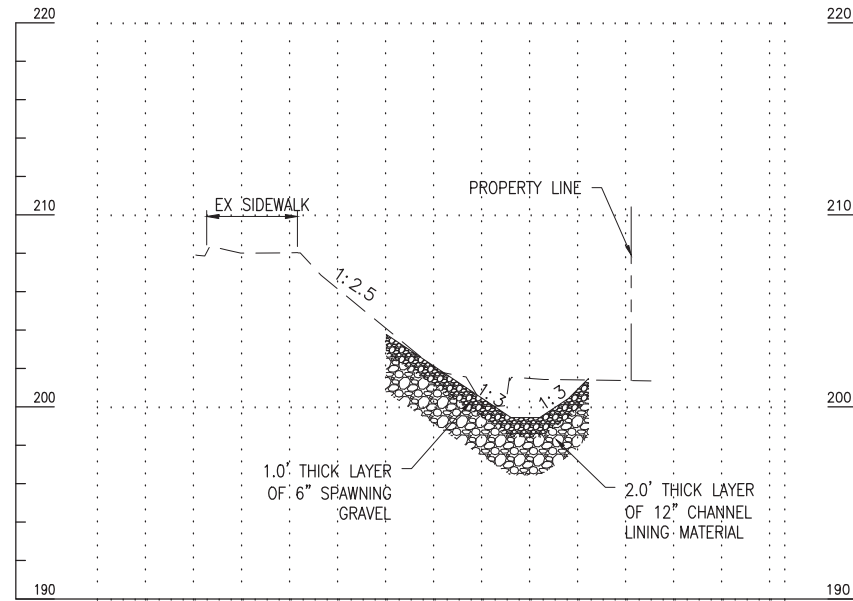


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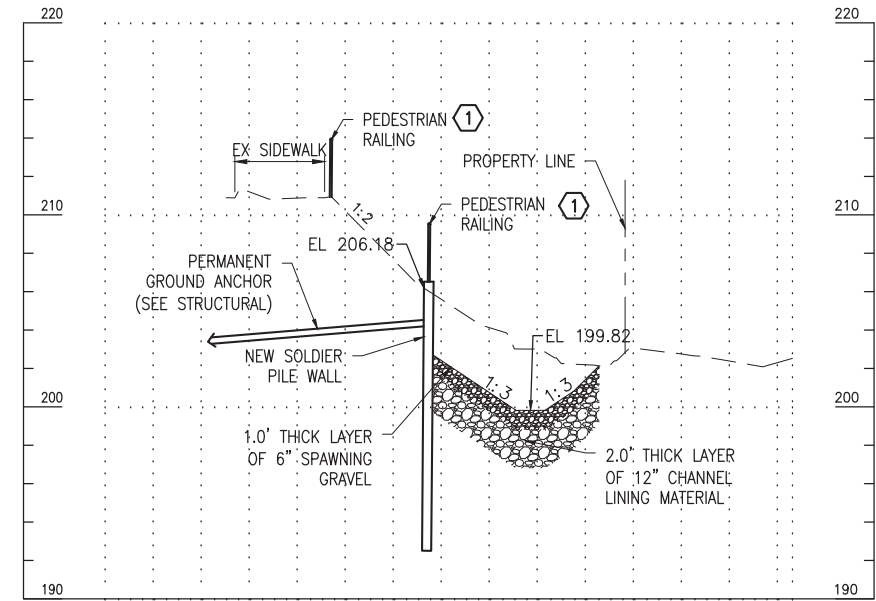
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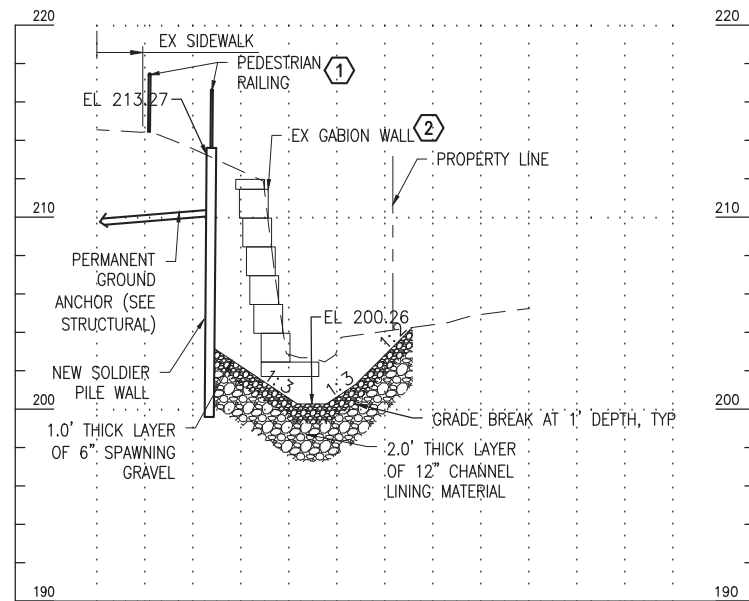
CROSS SECTION 1
 STA 11+04
 HORIZ SCALE: 1"=10'
 VERT SCALE: 1"=5'



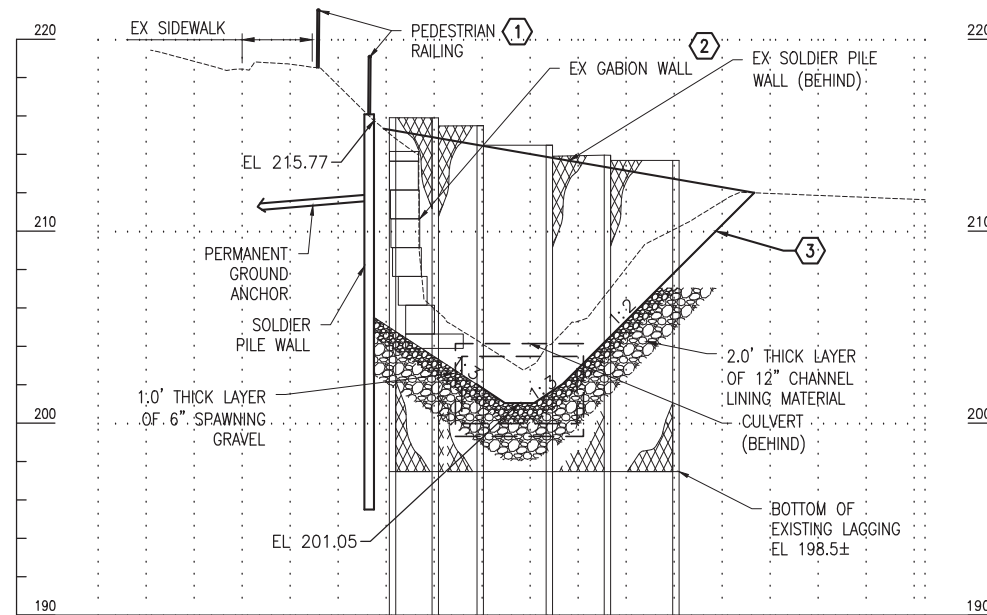
CROSS SECTION 2
 STA 12+00
 HORIZ SCALE: 1"=10'
 VERT SCALE: 1"=5'



CROSS SECTION 3
 STA 13+00
 HORIZ SCALE: 1"=10'
 VERT SCALE: 1"=5'



CROSS SECTION 4
 STA 14+19
 HORIZ SCALE: 1"=10'
 VERT SCALE: 1"=5'



CROSS SECTION 5
 STA 15+64
 HORIZ SCALE: 1"=10'
 VERT SCALE: 1"=5'

CONSTRUCTION NOTES

- ① CONSTRUCT 4.0' TALL PEDESTRIAN RAIL PER WSDOT STD PLAN L-20.10-03.
- ② REMOVE EXISTING GABION WALL.
- ③ SEE SHEETS L1 THROUGH L3 FOR PLANTING AND SOIL AMENDMENT.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |



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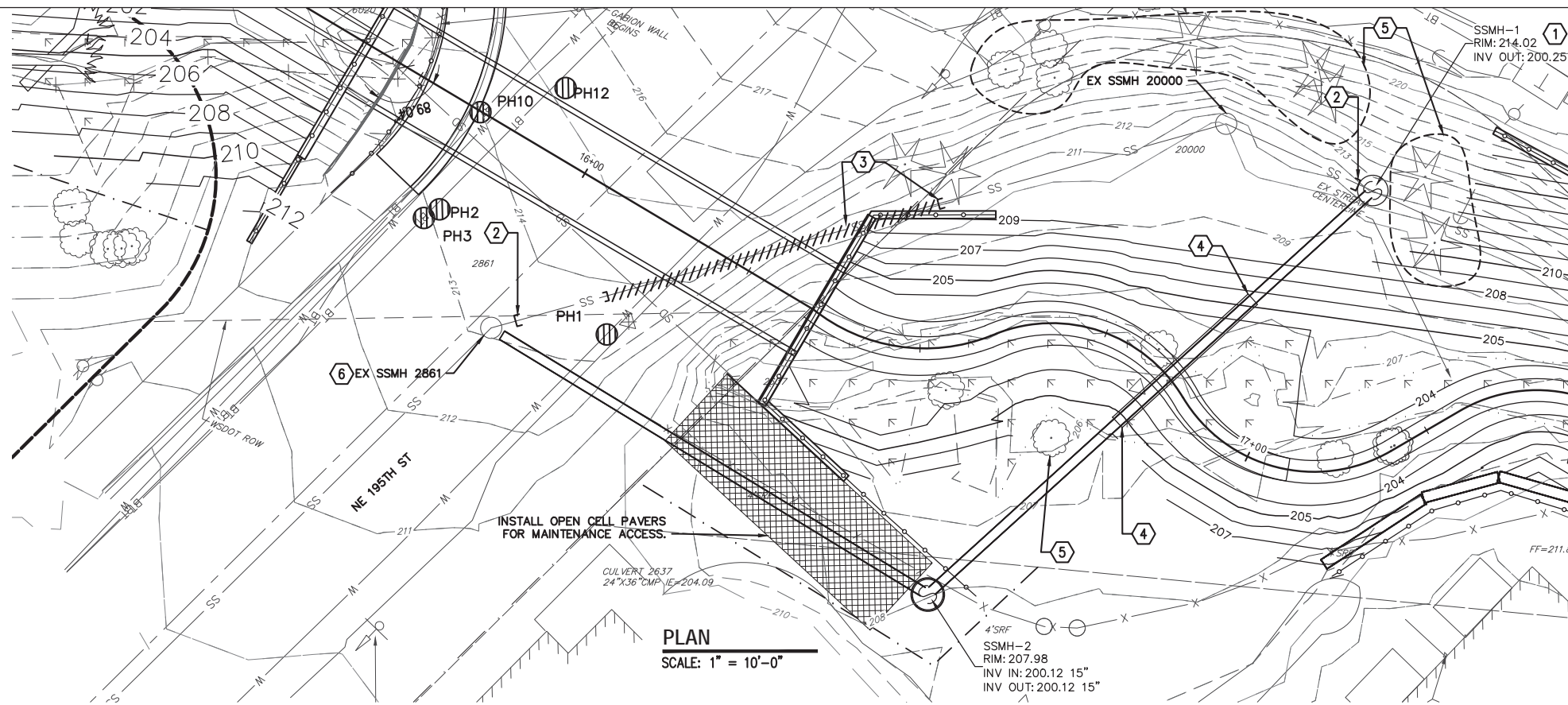
NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
 STREAM AND CULVERT CROSS
 SECTIONS

Project No. _____

Dwg
C4

Sheet 8 Of 36





PLAN
SCALE: 1" = 10'-0"

KEYED NOTES

- ① INSTALL NEW SSMH-1 AND CONNECT TO EXISTING 12" DIA SEWER TO NORTH.
- ② ABANDON EXISTING SEWER AND FILL WITH CDF.
- ③ REMOVE APPROXIMATELY 45 LF 12" DIA SEWER TO ALLOW CONSTRUCTION OF NEW CULVERT AND WING WALL. CAP AND ABANDON REMAINDER BY FILLING WITH CDF.
- ④ CASE APPROX 24 LF 15" DIA SEWER IN 26" DIA STEEL CASING. SEE DETAIL 4 ON DWG C6.
- ⑤ PROTECT EXISTING TREES.
- ⑥ CONNECT NEW SS TO EXISTING SSMH.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |

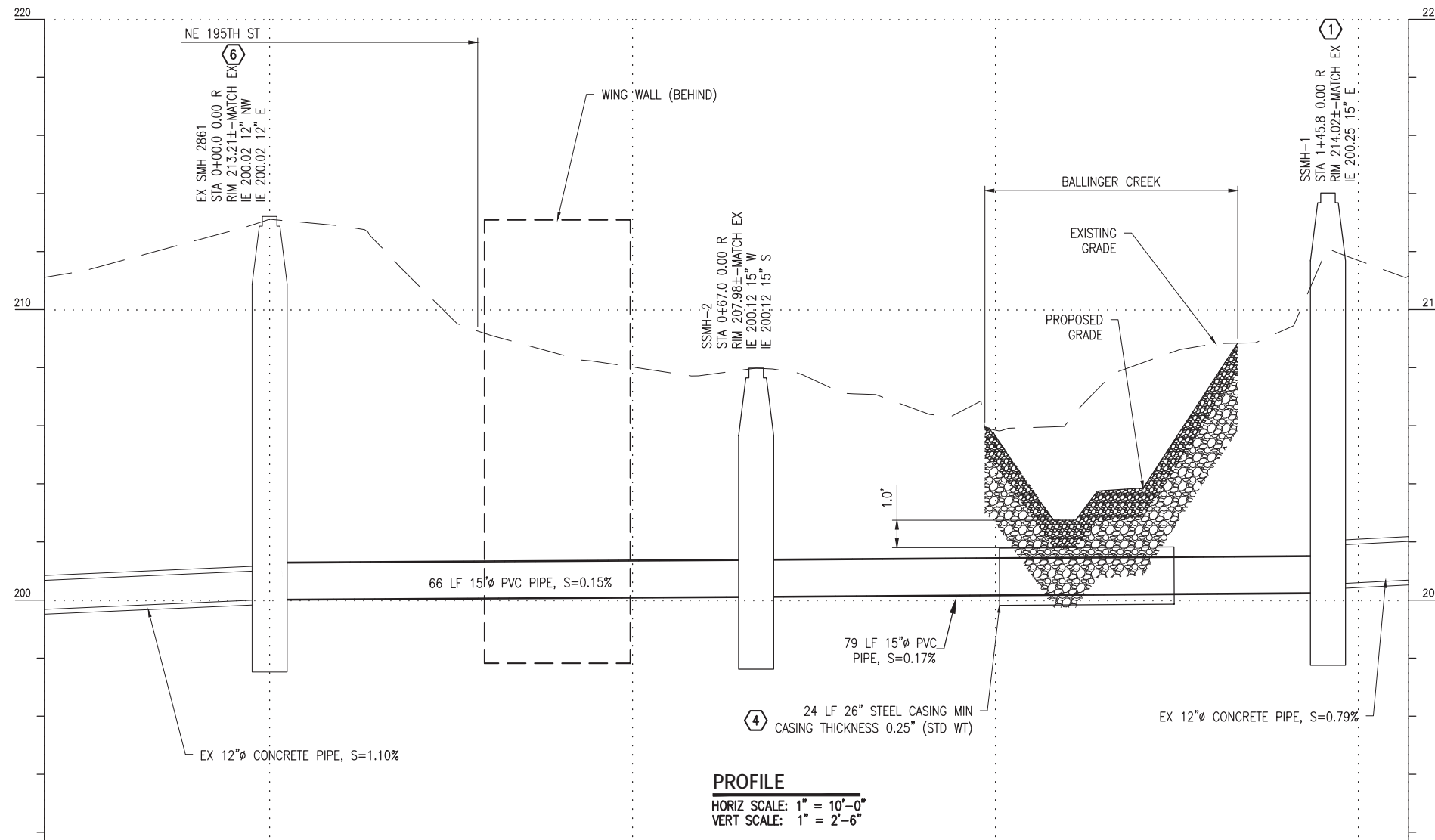


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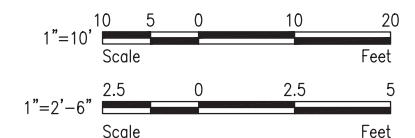


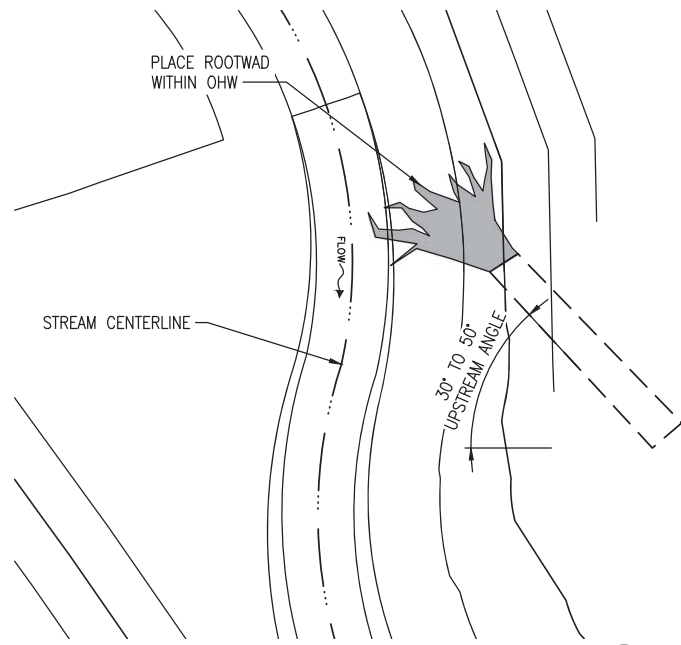
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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
SEWER MAIN PROFILE

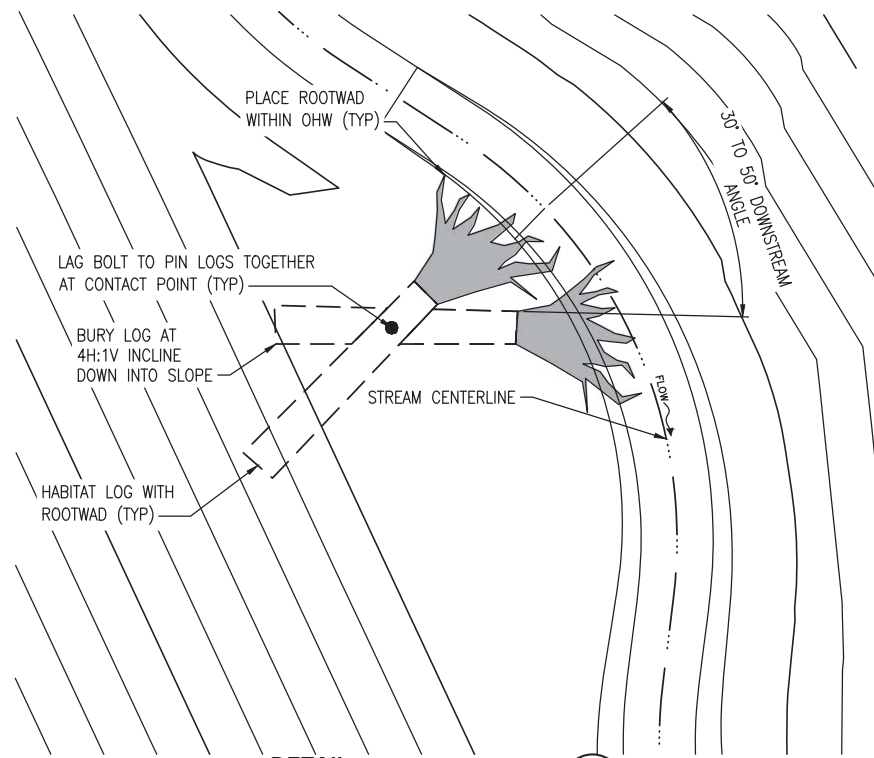


PROFILE
HORIZ SCALE: 1" = 10'-0"
VERT SCALE: 1" = 2'-6"

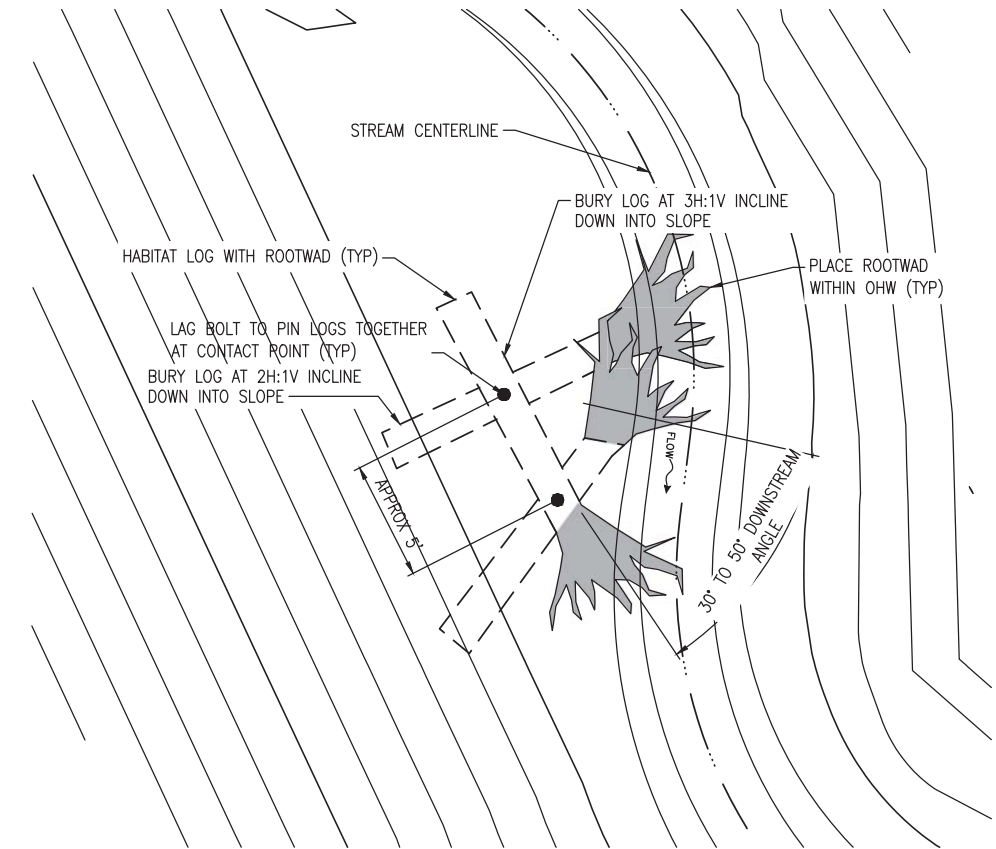




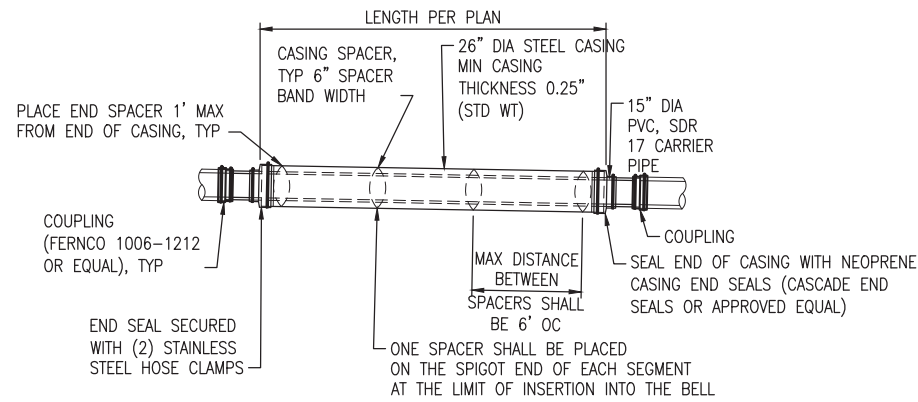
DETAIL
HABITAT LOG
SCALE: 1/4"=1'-0" 1
C1,C2



DETAIL
HABITAT LOG STRUCTURE TYPE 1
SCALE: 1/4"=1'-0" 2
C1,C2

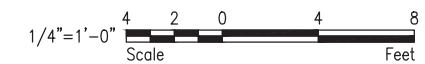


DETAIL
HABITAT LOG STRUCTURE TYPE 2
SCALE: 1/4"=1'-0" 3
C1,C2



DETAIL
STEEL SEWER CASING
SCALE: NTS 5
C5

- STEEL CASING NOTES:**
- CASING SPACERS SHALL BE "CENTER POSITIONING TYPE". MINIMUM RUNNER WIDTH SHALL BE 2".
 - RUNNER HEIGHT SHALL BE SIZED TO PROVIDE:
 - A. MIN 4" CLEARANCE BETWEEN CARRIER PIPE AND CASING PIPE.
 - B. MIN 1" CLEARANCE BETWEEN RUNNERS AND TOP OF CASING WALL TO PREVENT JAMMING DURING INSTALLATION.
 - STEEL CASING DIAMETER IS OUTSIDE DIAMETER.
 - ANTICORROSIVE COATING THICKNESS CASING - 3 MILLS. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.



GENERAL NOTES

- HABITAT LOGS SHALL BE 2/3 EMBEDDED (BY LENGTH) IN STREAM BANK.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |



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NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
 STREAM HABITAT DETAILS

Project No. _____

Dwg
C6

Sheet 10 Of 36



| EXISTING UTILITY DATA | | | | | | | | | |
|-----------------------|-----------------|----------|-----------------|-----------|-------------------------------|----------------------------------|---------------------------------|---|------------|
| POTHOLE # (1) | TYPE OF UTILITY | MATERIAL | SIZE OF UTILITY | GROUND EL | MEASUREMENT TO TOP OF UTILITY | MEASUREMENT TO BOTTOM OF UTILITY | APPROX. EL OF BOTTOM OF UTILITY | DISTANCE FROM FOG LINE/CENTER LINE/CURB | NOTES |
| 1 | WATER | STEEL | 8" | 213.23' | 37.5" | 45.5" | 209.44' | 2'2" / 13'5" / N/A | PIPE RUSTY |
| 2 | WATER | STEEL | 66" | 213.14' | 38.0" | 104.0" | 204.47' | 1'3" / 13'8" / 4'3" | |
| 10 | COM | PVC | (2) 4" | 213.82' | 30.0" | 37.0" | 210.74' | 1'3" / 18'11" / 7'2" | |
| 12 | WATER | STEEL | 66" | 215.21' | 46.0" | 112.0" | 205.88' | 8'9" / 13'4" / 9'9" | |
| 13 | WATER | STEEL | 66" | 212.92' | 37.0" | 103.0" | 204.34' | 2'6" / 14'3" / 2'10" | |

NOTES:
1. SEE DWG C5 FOR POTHOLE LOCATIONS.

| | | |
|----------|----------|-------------|
| Initials | Date | Description |
| JTE | 12/31/19 | |
| JTE | 12/31/19 | |
| MSG | 12/31/19 | |
| Drawn | Designed | Checked |
| | | Revisions |
| | | Revisions |



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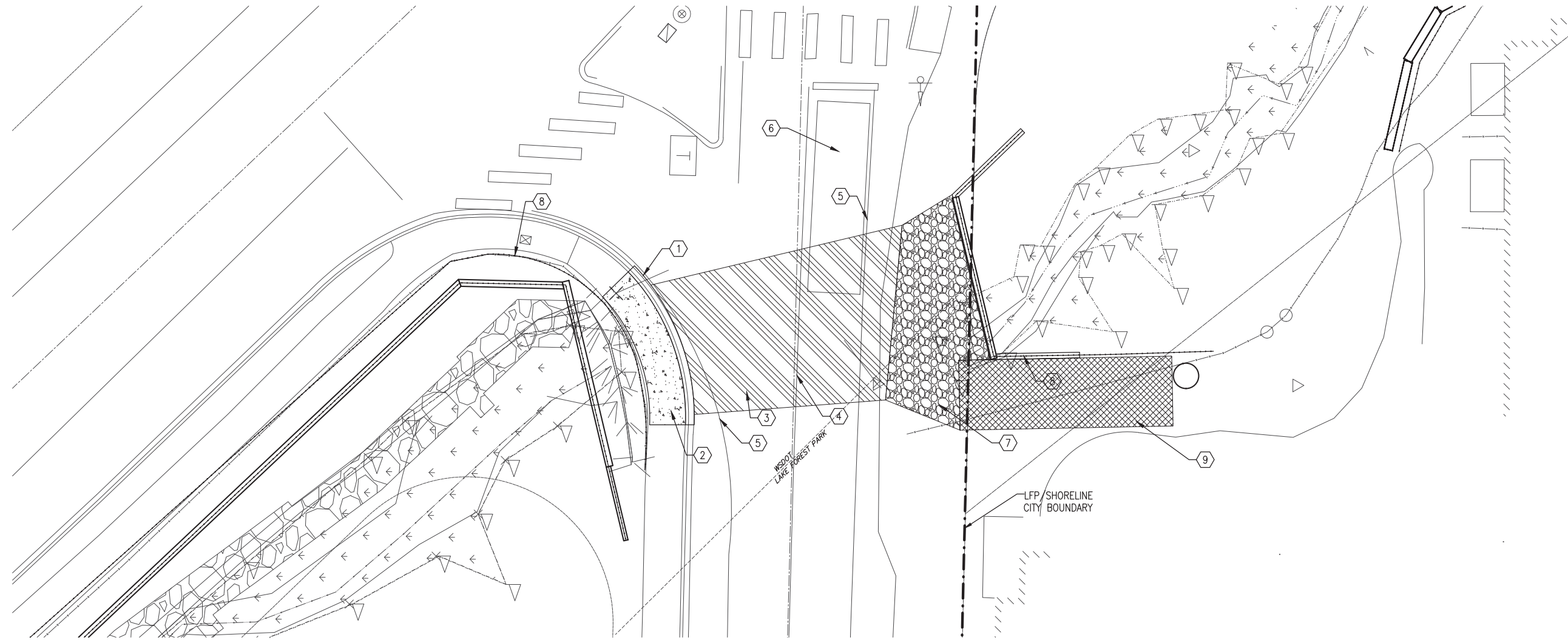
NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
POTHOLE DATA TABLE

Project No. _____

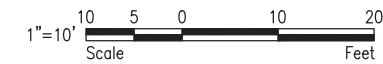
Dwg
C7

Sheet 11 Of 36



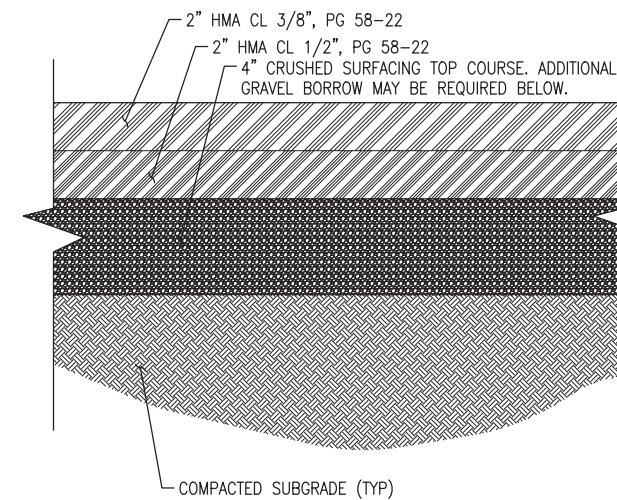


PLAN
SCALE: 1" = 10'-0"



KEYED NOTES

- ① INSTALL 30 LF CURB AND GUTTER PER LFP STD DTL 2.06.
- ② INSTALL 18 SY 6' WIDE CEMENT CONCRETE SIDEWALK PER LFP STD DTL 2.12.
- ③ RESTORE UTILITY TRENCH PER LFP STD DTL 2.14 (TYP).
- ④ RESTORE DOUBLE CENTERLINE PER WSDOT STD PLAN M-20.10-02.
- ⑤ RESTORE SOLID EDGE LINE PER WSDOT STD PLAN M-20.10-02.
- ⑥ RESTORE TRAFFIC LOOP IN KIND.
- ⑦ RESTORE AREA BETWEEN EDGE OF PAVEMENT AND NEW CULVERT HEADWALL WITH GRAVEL SHOULDER.
- ⑧ INSTALL 4.0' HIGH PEDESTRIAN FENCE PER WSDOT STANDARD PLAN L-20.10-03.
- ⑨ INSTALL GRASSCRETE OR EQUIVALENT PRODUCT FOR VEHICLE ACCESS.



DETAIL
PAVEMENT SECTION
SCALE: 1/4" = 1'-0"

NOTES:

- 1. SUBGRADE SHALL BE COMPACTED TO 95% UNDER ROAD, CURB, GUTTER, AND SIDEWALK.
- 2. COMPACTION TEST MAY BE REQUIRED.

PATH: c:\projectwise\811\p2014\lbguser\0308623\ROADWAY.dwg

| Initials | Date | Description |
|----------|----------|-------------|
| JTE | 12/31/19 | |
| JTE | 12/31/19 | |
| MSG | 12/31/19 | |
| | | |
| | | |

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**NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
NE 195TH ST ROADWAY
RESTORATION PLAN**

Project No. _____

Dwg **RR1**

Sheet 12 Of 36



VERIFY SCALE - BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" - IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

EROSION AND SEDIMENTATION CONTROL REQUIREMENTS (TESC)

- TESC.1. THE IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR ON A DAILY BASIS AND UNTIL ALL CONSTRUCTION IS APPROVED.
- TESC.2. AT ALL TIMES PROTECT CRITICAL AREAS AND THEIR BUFFERS, ADJACENT PRIVATE PROPERTIES AND PUBLIC PROPERTY AND SURVEY MONUMENTS.
- TESC.3. EROSION SEDIMENTATION CONTROL (ESC) FACILITIES MUST BE CONSTRUCTED PRIOR TO AND IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER OR AIRBORNE SEDIMENT DOES NOT ENTER DRAINAGE OR STREAM FLOW CONVEYANCE SYSTEM OR VIOLATE APPLICABLE WATER OR AIR QUALITY STANDARDS DURING THE CONSTRUCTION PERIOD. THESE ESC FACILITIES SHALL BE UPGRADED TO INCLUDE ADDITIONAL SUMPS, DITCHES, FENCES, ETC. AS NEEDED FOR UNEXPECTED STORM EVENTS.
- TESC.4 STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED BY THE CITY OF LAKE FOREST TO ENSURE THAT PAVED AREAS ARE KEPT CLEAN FOR THE PROJECT DURATION.
- TESC.5. ANY AREA STRIPPED OF VEGETATION (INCLUDING ROADWAY EMBANKMENTS), WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 2 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH APPROVED ESC METHODS AS FOLLOWS.
 - FROM MAY 1 THROUGH SEPTEMBER 30, INSTALL TESC COVER MEASURES TO PROTECT DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR SEVEN DAYS OR MORE.
 - FROM OCTOBER 1 THROUGH APRIL 30:
 - A) INSTALL TESC COVER MEASURES TO PROTECT DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR TWO DAYS OR MORE.
 - B) PROTECT STOCKPILES AND STEEP CUT/FILL SLOPES IF UNWORKED FOR MORE THAN 12 HOURS
 - C) STOCKPILE ON SITE ENOUGH COVER MATERIALS TO COVER ALL DISTURBED AREAS.
 ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN 7 DAYS.
- TESC.6. ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
- TESC.7. BY OCTOBER 8, SEED ALL AREAS THAT WILL REMAIN UNWORKED FROM OCTOBER 1 THROUGH APRIL 30. MULCH ALL SEEDED AREAS.
- TESC.8. AT NO TIME SHALL MORE THEN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS & CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO A DOWNSTREAM SYSTEM.
- TESC.9. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST-GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE). WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.
- TESC.10. THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES SHOWN ON THE TESC ARE MINIMUM REQUIREMENTS. FIELD ADJUSTMENTS SHALL BE MADE TO ENSURE THE TESC PERFORMS IN ACCORDANCE WITH THE 2019 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOLUME II.
- TESC.11. BEFORE ANY GROUND DISTURBANCE OCCURS ALL DOWNSTREAM BEST MANAGEMENT PRACTICES MUST BE CONSTRUCTED AND OPERATIONAL.
- TESC.12. BEST MANAGEMENT PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL SITE CONSTRUCTION IS COMPLETED AND PERMANENT STABILIZATIONS IS ESTABLISHED AND APPROVED BY THE CITY.
- TESC.13. INSPECT AND MAINTAIN BEST MANAGEMENT PRACTICES DAILY IN ACCORDANCE WITH THE 2019 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOLUME II.
- TESC.14. FAILURE TO MAINTAIN TESC MEASURES IN ACCORDANCE WITH ADOPTED STANDARDS MAY RESULT IN THE WORK BEING PERFORMED AT THE CITY'S DIRECTION AND THE COSTS DEDUCTED FROM MONIES OWED TO CONTRACTOR.
- TESC.15. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR, RESTORE OR REPLACE ALL GRADE SURFACES; WALLS, DRAINS, DAMS, STRUCTURES, VEGETATION, TESC MEASURES, AND OTHER PROTECTIVE DEVICES IN ACCORDANCE WITH APPROVED PLANS.
- TESC.16. THE CONTRACTOR SHALL MONITOR DOWNSTREAM DRAINAGE FEATURES, AND, WITH THE CITY'S APPROVAL, SHALL REMOVE ALL SEDIMENT DEPOSITION RESULTING FROM THE PROJECT-RELATED WORK.
- TESC.17. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS.
- TESC.18. BEFORE REMOVING ANY TEMPORARY MEASURES, INSTALL AND ESTABLISH THE UPSTREAM PERMANENT MEASURES.
- TESC.19. ALL TESC MEASURES SHALL BE IN COMPLIANCE WITH THE NPDES PERMIT. THE CONTRACTOR SHALL TRACK THE INSPECTION RESULTS AND MAINTENANCE ACTIVITIES IN THE MONITORING LOG.
- TESC.20. THE CONTRACTOR MUST MAINTAIN A SWEEPER ON SITE DURING FLOODPLAIN STORAGE AREA EARTHWORK AND IMMEDIATELY REMOVE SOIL THAT HAS BEEN TRACKED ONTO PAVED AREAS AS A RESULT OF CONSTRUCTION. THE PAVEMENT SHALL BE CLEANED AT THE END OF EACH CONSTRUCTION DAY IF SEDIMENT IS DEPOSITED ONTO THE PAVEMENT DUE TO CONSTRUCTION ACTIVITY AND/OR VEHICLES. SWEEPER MUST BE VACUUM TYPE SWEEPER WITH DUST CONTROL. SIMPLE BROOM TYPE SWEEPERS ARE NOT ALLOWED.
- TESC.21. THE CONTRACTOR SHALL MONITOR DISCHARGE FROM THE SITE. SITE DISCHARGE SHALL MEET ALL LOCAL, CITY, STATE, AND FEDERAL REQUIREMENTS FOR WATER QUALITY INCLUDING TURBIDITY AND PH.

CITY OF LAKE FOREST PARK STANDARD TESC NOTES

- 1. ALL SEDIMENT CONTROL MEASURES TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE.
- 2. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- 3. THE SEDIMENT CONTROL MEASURES WILL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS PERMANENTLY STABILIZED AND ALL PERMIT REQUIREMENTS ARE MET.

SITE GRADING CONDITIONS (SG)

- SG.1. ALL DISTURBED AREAS INCLUDING FACES OF CUT AND FILL SLOPES SHALL BE PREPARED AND MAINTAINED TO CONTROL EROSION. THIS CONTROL MAY CONSIST OF EFFECTIVE PLANTING. THE PROTECTION FOR THESE AREAS SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICAL AND PRIOR TO BOND RELEASE.
- SG.2. PROVISIONS SHALL BE MADE TO PREVENT ANY SURFACE WATER OR SEEPAGE FROM DAMAGING THE CUT FACE OF ANY EXCAVATION OR THE SLOPING FACE OF A FILL. CARRY ANY SURFACE WATER THAT IS OR MIGHT BE CONCENTRATED AS A RESULT OF A FILL OR EXCAVATION TO A NATURAL WATERCOURSE OR DESIGNATED RETENTION FACILITY. PREVENT ANY SEDIMENT FROM LEAVING THE SITE.
- SG.3. SIGNS OF WARNING OF HAZARDOUS CONDITIONS, IF SUCH EXIST, SHALL BE AFFIXED AT LOCATIONS AS REQUIRED BY THE ENGINEER.
- SG.4. FENCING, WHERE REQUIRED, TO PROTECT LIFE, LIMB AND PROPERTY, SHALL BE INSTALLED WITH LOCKABLE GATES WHICH MUST BE CLOSED AND LOCKED WHEN NOT WORKING THE SITE. THE FENCE MUST BE NO LESS THAN FIVE (5) FEET IN HEIGHT AND THE FENCE MATERIAL SHALL HAVE NO HORIZONTAL OPENING LARGER THAN TWO (2) INCHES.
- SG.5. THE TOPS AND THE TOES OF CUT AND FILL SLOPES SHALL BE SET BACK FROM STRUCTURES AS FAR AS IS NECESSARY FOR ADEQUACY OF FOUNDATION SUPPORT AND TO PREVENT DAMAGE AS A RESULT OF WATER RUNOFF OR EROSION OF THE SLOPES.

W 1/2 SW 1/4 SEC 08, T26N, R1E, WM

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
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| | 12/31/19 | JTE | | | | | |
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| | 12/31/19 | MSG | | | | | |



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NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
TEMPORARY EROSION AND
SEDIMENT CONTROL NOTES

Project No. _____

Dwg
EC1

Sheet 13 Of 36



GENERAL STREAM BYPASS NOTES

1. THIS DRAWING INCLUDES A PRELIMINARY STREAM BYPASS PLAN NECESSARY FOR PERMIT APPROVAL. THIS PLAN REPRESENTS THE MINIMUM WORK NECESSARY TO PROTECT THE WORK AREA AND CONTRACTOR IS RESPONSIBLE FOR DEVELOPING FINAL STREAM BYPASS NEEDED TO PROTECT WORK AREA.
2. SAND BAGS FOR COFFERDAM SHALL BE FILLED WITH WASHED ROCK. SAND SHALL NOT BE USED.
3. COFFERDAMS SHALL BE WATERTIGHT.
4. CONTRACTOR SHALL CAPTURE AND SAFELY REMOVE AND RELOCATE FISH WITHIN THE TEMPORARY DIVERSION AREA IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND HPA REQUIREMENTS. PRIOR TO INSTALLING TEMPORARY BYPASS, CONTRACTOR SHALL OBTAIN A WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW) SCIENTIFIC COLLECTING PERMIT PER SPEC SECTION 1-07.6 AND INSTALL FISH BLOCK NETS AND HAND NET FISH FROM WORK AREA PER PERMIT REQUIREMENTS. CONTRACTOR SHALL HAVE A QUALIFIED BIOLOGIST CAPTURE AND SAFELY MOVE FOOD FISH, GAME FISH, AND OTHER FISH LIFE FROM THE JOB SITE. CAPTURED FISH SHALL BE IMMEDIATELY AND SAFELY TRANSFERRED TO FREE FLOWING WATER DOWNSTREAM OF THE PROJECT SITE.
5. ALL WORK MUST BE IN ACCORDANCE WITH THE PROJECT HPA. ALL IN-STREAM WORK MUST BE COMPLETED WITHIN THE ALLOWED FISH WINDOW (JULY 1 THROUGH AUGUST 15).

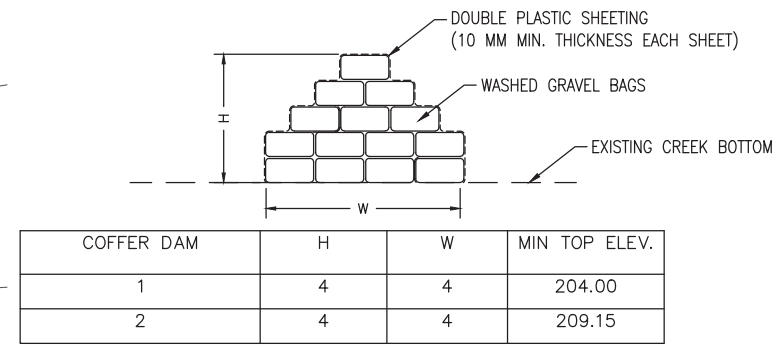
PRELIMINARY CONSTRUCTION SEQUENCE

NOTE TO 60% REVIEWERS: SEQUENCING IS PRELIMINARY DUE BECAUSE IT IS UNCERTAIN WHETHER THIS PROJECT OR THE 25TH AVENUE NE BALLINGER CREEK FLOOD REDUCTION PROJECT WILL BE FIRST OR WHETHER THEY WILL PROCEED TOGETHER. (IN PARTICULAR THE LOWERING OF THE CHANNEL PROFILE JUST NORTH OF NE 195TH STREET, WHICH WOULD REQUIRE DIFFERENT TRANSITIONS DEPENDING ON WHICH PROJECT IS FIRST).

A PRELIMINARY PHASED APPROACH AND CONSTRUCTION SEQUENCE WAS DEVELOPED AS PART OF THE PROJECT PERMIT SUBMITTAL. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE DETAILED PHASED CONSTRUCTION SEQUENCE TO COMPLETE WORK, SATISFY ALL PERMIT REQUIREMENTS AND COMPLETE THE WORK WITHIN THE WORKING DAYS IDENTIFIED IN THE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT DETAILED SEQUENCE SHOWING DURATIONS OF ACTIVITIES FOR ENGINEER'S APPROVAL. THE SEQUENCE SHALL DEMONSTRATE ABILITY TO COMPLETE ALL IN-WATER WORK WITHIN THE FISH WINDOW.

1. SUBMIT REQUIRED CONSTRUCTION SUBMITTALS PER SECTION 1-05.9 INCLUDING BUT NOT LIMITED TO PROJECT SCHEDULE AND SEQUENCE, PRE-CONSTRUCTION PHOTOS, TESC INFORMATION, AND MATERIAL SUBMITTALS.
2. ATTEND PRE-CONSTRUCTION CONFERENCE.
3. PLACE CONSTRUCTION SIGNAGE.
4. BEGIN TEMPORARY TRAFFIC CONTROL MEASURES AND ADJUST MEASURES AS NEEDED FOR SPECIFIC WORK AREAS.
5. IMPLEMENT TRAFFIC CONTROL PLAN INCLUDING THE NE 195TH STREET CLOSURE.
6. INSTALL TESC MEASURES FOR ALL AREAS WHERE WORK WILL BE PERFORMED. TESC MEASURES SHALL BE PHASED AND ADVANCED AS WORK PROGRESSES.
7. PERFORM NON-IN WATER SITE PREPARATION AND OTHER ACTIVITIES THAT CAN BE ACCOMPLISHED PRIOR TO THE FISH WINDOW THAT WILL FACILITATE THE OVERALL SCHEDULE. SUCH ACTIVITIES, MAY INCLUDE SOILDER PILES, STABILIZED CONSTRUCTION ACCESS, TREE REMOVAL, EXCAVATING PORTIONS OF THE NE 195TH STREET ABOVE THE EXISTING CULVERT INCLUDING UTILITY SUPPORTING SYSTEMS, AND OTHER ACTIVITIES.
8. AT THE BEGINNING OF THE FISH WINDOW, REMOVE FISH AND SET UP FISH NETS UPSTREAM OF THE BYPASS AND DOWNSTREAM OF BALLINGER WAY NE. SEE GENERAL STREAM BYPASS NOTES.

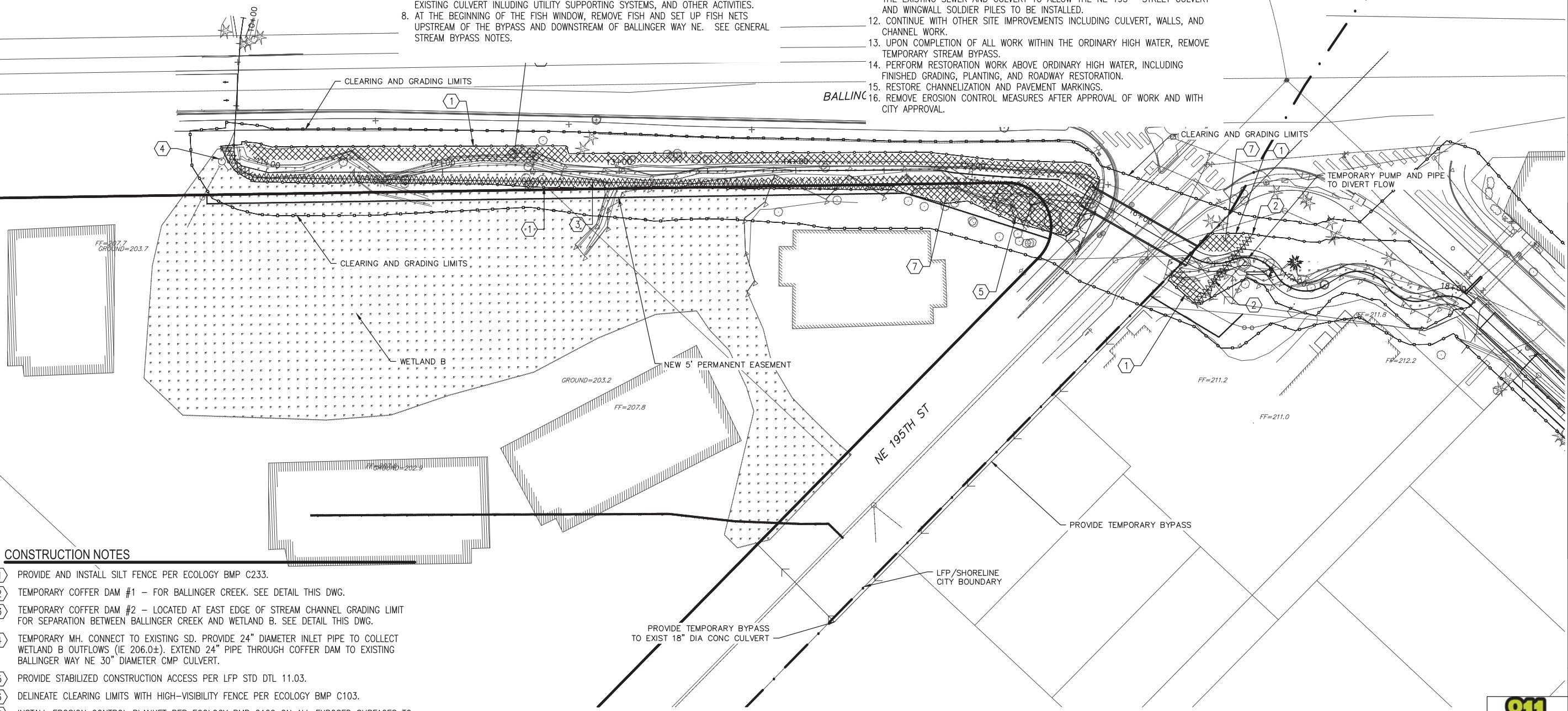
COFFER DAM DETAIL



- NOTES:
1. COFFER DAMS SHALL NOT BE REMOVED UNTIL THERE WILL BE NO INCREASE IN TURBIDITY CAUSED BY THE RELEASED WATER. TURBID WATER CAUSED BY REWATERING THE THALWEG SHALL BE TREATED OR INFILTRATED UP-PLAND.
 2. ALL TEMPORARY STREAM DIVERSION MATERIALS TO BE REMOVED FROM STREAM AT CONCLUSION OF WORK.
 3. PUMPS AND STREAM DIVERSION PIPE SHALL BE ABLE TO ACCOMMODATE THE 2 YEAR STORM EVENT (57 CFS) FOR BALLINGER CREEK. SEE "TEMPORARY STREAM DIVERSION" IN THE SPECIAL PROVISIONS FOR ADDITIONAL DETAILS NOT SHOWN.

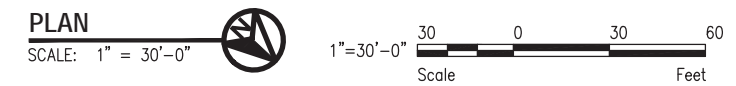
PRELIMINARY CONSTRUCTION SEQUENCE (CONTD.)

9. COMPLETE INSTALLATION OF TEMPORARY BYPASS INCLUDING COFFER DAMS, PUMPS, AND TEMPORARY PIPING.
10. INSTALL DEWATERING MEASURES SUCH AS PUMPS, DEWATERING WELLS, ETC.
11. COMPLETE SITE IMPROVEMENTS WITHIN THE FISH WINDOW. INITIAL SITE IMPROVEMENTS SHALL BE THE SEWER RELOCATION, REMOVAL OF PORTIONS OF THE EXISTING SEWER AND CULVERT TO ALLOW THE NE 195TH STREET CULVERT AND WINGWALL SOLDIER PILES TO BE INSTALLED.
12. CONTINUE WITH OTHER SITE IMPROVEMENTS INCLUDING CULVERT, WALLS, AND CHANNEL WORK.
13. UPON COMPLETION OF ALL WORK WITHIN THE ORDINARY HIGH WATER, REMOVE TEMPORARY STREAM BYPASS.
14. PERFORM RESTORATION WORK ABOVE ORDINARY HIGH WATER, INCLUDING FINISHED GRADING, PLANTING, AND ROADWAY RESTORATION.
15. RESTORE CHANNELIZATION AND PAVEMENT MARKINGS.
16. REMOVE EROSION CONTROL MEASURES AFTER APPROVAL OF WORK AND WITH CITY APPROVAL.



CONSTRUCTION NOTES

1. PROVIDE AND INSTALL SILT FENCE PER ECOLOGY BMP C233.
2. TEMPORARY COFFER DAM #1 - FOR BALLINGER CREEK. SEE DETAIL THIS DWG.
3. TEMPORARY COFFER DAM #2 - LOCATED AT EAST EDGE OF STREAM CHANNEL GRADING LIMIT FOR SEPARATION BETWEEN BALLINGER CREEK AND WETLAND B. SEE DETAIL THIS DWG.
4. TEMPORARY MH. CONNECT TO EXISTING SD. PROVIDE 24" DIAMETER INLET PIPE TO COLLECT WETLAND B OUTFLOWS (IE 206.0±). EXTEND 24" PIPE THROUGH COFFER DAM TO EXISTING BALLINGER WAY NE 30" DIAMETER CMP CULVERT.
5. PROVIDE STABILIZED CONSTRUCTION ACCESS PER LFP STD DTL 11.03.
6. DELINEATE CLEARING LIMITS WITH HIGH-VISIBILITY FENCE PER ECOLOGY BMP C103.
7. INSTALL EROSION CONTROL BLANKET PER ECOLOGY BMP C122 ON ALL EXPOSED SURFACES TO REMAIN EXPOSED FOR MORE THAN 7 DAYS DURING THE DRY SEASON, OR 2 DAYS DURING THE RAINY SEASON. EROSION CONTROL BLANKET SHALL BE PLACED OVER 6" AMENDED SOIL UPON SUBSTANTIAL COMPLETION.



W 1/2 SW 1/4 SEC 08, T26N, R1E, WM

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| | 12/31/19 | JTE | | | | | |
| | 12/31/19 | MSG | | | | | |

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**NE 195TH STREET BALLINGER CREEK CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
TEMPORARY EROSION AND SEDIMENT CONTROL PLAN**

Project No. _____

Dwg **EC2**

Sheet 14 Of 36



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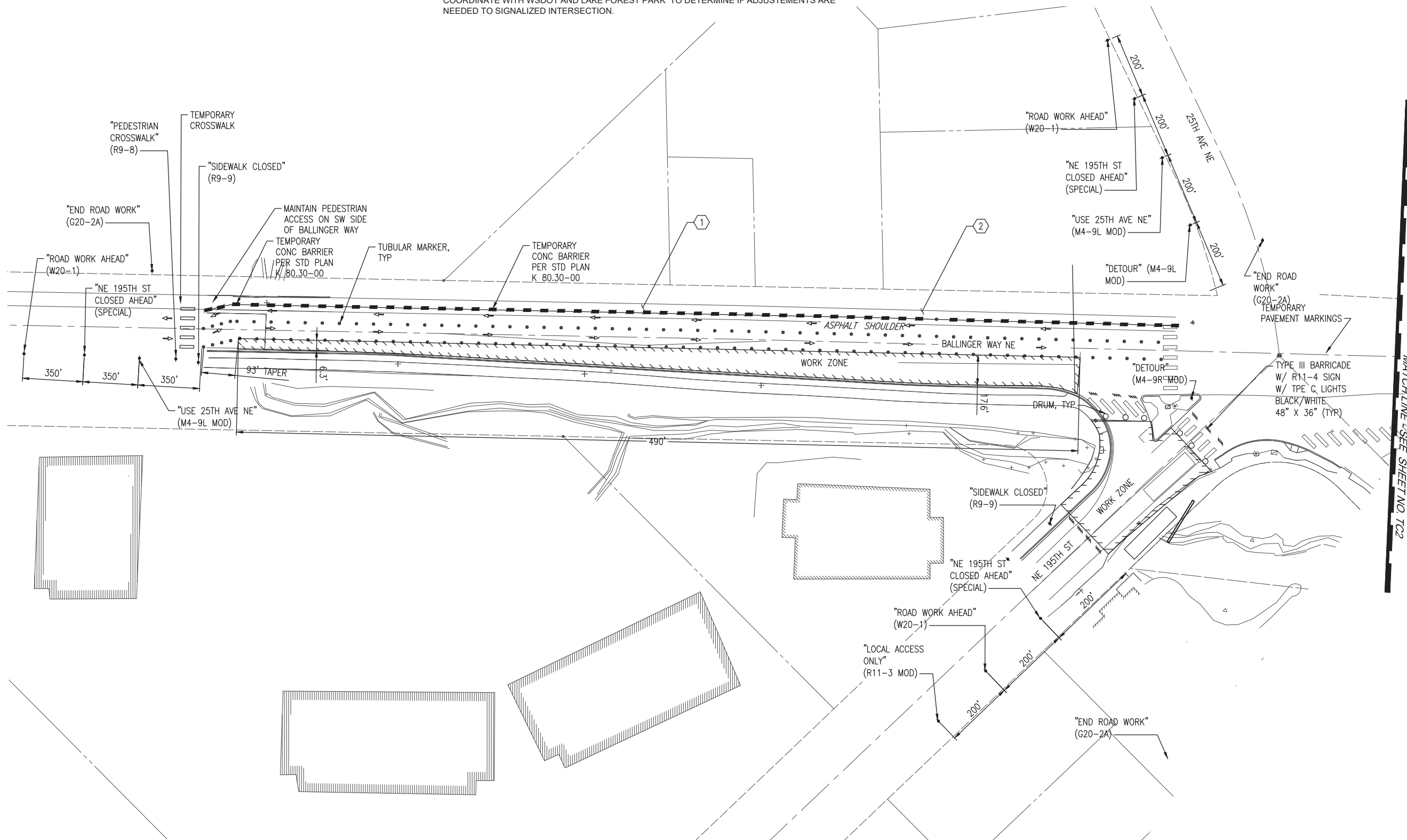
KEYED NOTES

- ① PROVIDE 4' MINIMUM WIDTH PEDESTRIAN ACCESS. PROVIDE BREAKS IN BARRIER FOR DRIVEWAY ACCESS.
- ② APPROXIMATE LOCATION OF EXISTING KING COUNTY METRO BUS STOP. CONTRACTOR TO COORDINATE WITH KING COUNTY METRO FOR REQUIREMENTS TO KEEP BUS STOP OPEN.

GENERAL NOTES

- 1. ALL TRAFFIC CONTROL SHALL COMPLY WITH MUTCD AND ADA REQUIREMENTS.
- 2. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
- 3. DURING ROAD CLOSURE OF NE 195TH STREET, PLACE DETOUR SIGNS TO ROUTE TRAFFIC NORTH TO NE 205TH AVE NE AND 30TH AVE NE. SIGNAGE SHALL BE LOCATED AT EACH INTERSECTION ALONG THE ROUTE.
- 4. COORDINATE TRAFFIC CONTROL WITH WSDOT, LAKE FOREST PARK, AND CITY OF SHORELINE. COORDINATE WITH WSDOT AND LAKE FOREST PARK TO DETERMINE IF ADJUSTEMENTS ARE NEEDED TO SIGNALIZED INTERSECTION.

W 1/2 SW 1/4 SEC 08, T26N, R1E, WM



MATCHLINE - SEE SHEET NO. TC2

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| MSG | 12/31/19 | |

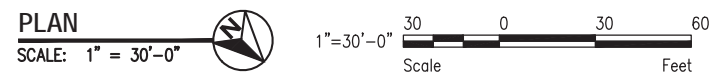
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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
TEMPORARY TRAFFIC CONTROL PLAN
SHEET 1 OF 2

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| Dwg | TC1 |
| Sheet | 15 Of 36 |



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GENERAL NOTES

1. ALL TRAFFIC CONTROL SHALL COMPLY WITH MUTCD AND ADA REQUIREMENTS.
2. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
3. DURING ROAD CLOSURE OF NE 195TH STREET, PLACE DETOUR SIGNS TO ROUTE TRAFFIC NORTH TO NE 205TH AVE NE AND 30TH AVE NE. SIGNAGE SHALL BE LOCATED AT EACH INTERSECTION ALONG THE ROUTE.
4. COORDINATE TRAFFIC CONTROL WITH WSDOT, LAKE FOREST PARK, AND CITY OF SHORELINE. COORDINATE WITH WSDOT AND LAKE FOREST PARK TO DETERMINE IF ADJUSTMENTS ARE NEEDED TO SIGNALIZED INTERSECTION.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
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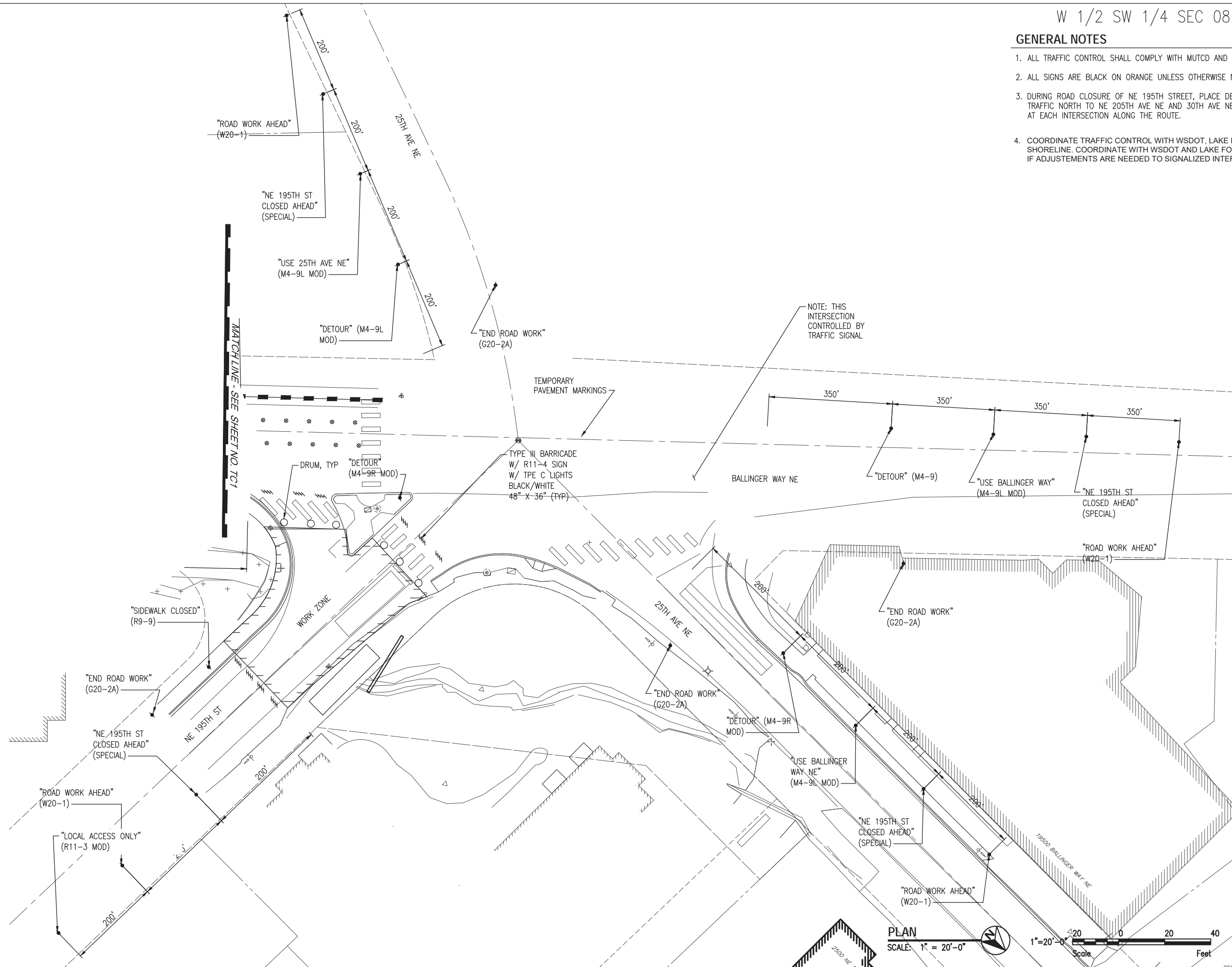
NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
TEMPORARY TRAFFIC CONTROL PLAN
SHEET 2 OF 2

Project No. _____

Dwg **TC2**

Sheet 16 Of 36

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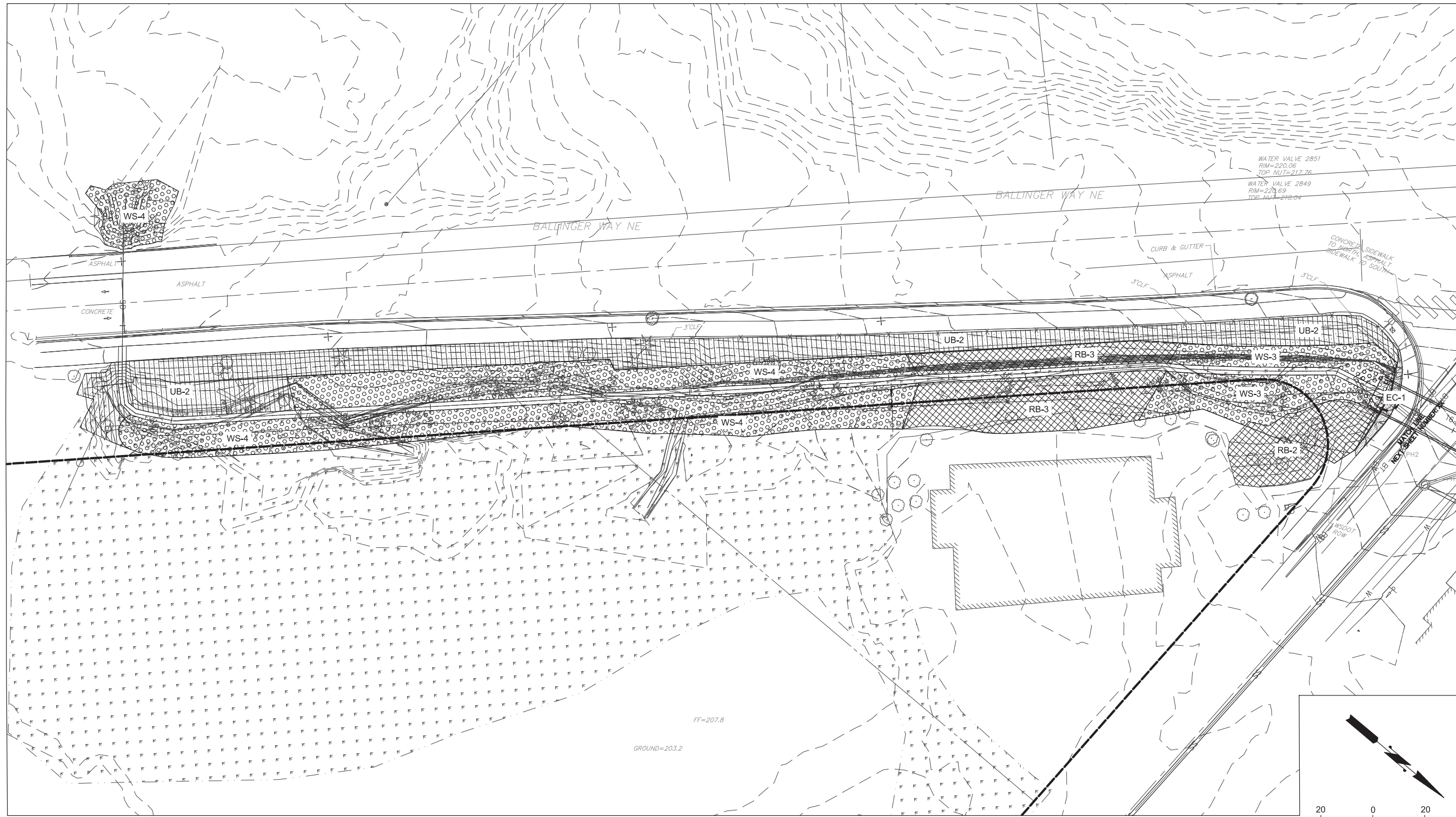


PLAN

SCALE: 1" = 20'-0"



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PLAN

GENERAL NOTES

1. ALL WORK THIS SHEET IS WITHIN CITY OF LAKE FOREST PARK.
2. LIMIT DISTURBANCE TO ONLY THOSE AREAS NECESSARY FOR CONSTRUCTING THE PROPOSED IMPROVEMENTS.
3. EXISTING TREES SHALL RECEIVE TREE PROTECTION PER A TREE PROTECTION PLAN CREATED BY A CERTIFIED ARBORIST.
2. LIMIT DISTURBANCE TO ONLY THOSE AREAS NECESSARY FOR CONSTRUCTING THE PROPOSED IMPROVEMENTS.
3. PROTECT EXISTING LANDSCAPING AND VEGETATION. WHERE DISTURBED OR REMOVED DURING CONSTRUCTION, RESTORE SURFACE FEATURES IN KIND.
4. SEE PLANT SCHEDULE ON SHEET XX FOR PLANTING QUANTITIES AND STOCK TYPE SIZES.

5. INVASIVE SPECIES WITHIN THE PLANTING AREAS SHALL BE REMOVED AND TREATED PER CITY CODE PRIOR TO PLANTING. HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM), ENGLISH IVY (HEDERA HELIX) AND REED CANARYGRASS (PHALARIS ARUNDINACEA) AREA THE PRIMARY INVASIVE WEED SPECIES PRESENT ON SITE.
6. PLANTING PLAN ASSUMES ALL EXISTING NATIVE TREES AND SHRUBS NOT REMOVED DURING CONSTRUCTION ARE PROTECTED.

LEGEND

- RB-X RIPARIAN BUFFER BARE ROOT TREE/SHRUB MIX (3958 SQUARE FEET)
- WS-X WETLAND SHRUB LIVE STAKE MIX (8640 SQUARE FEET)
- UB-X UPLAND BUFFER BARE ROOT SHRUB MIX (5110 SQUARE FEET)

| Initials | Date | Description |
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| RG | 12/31/19 | |
| RG | 12/31/19 | |
| KF | 12/31/19 | |

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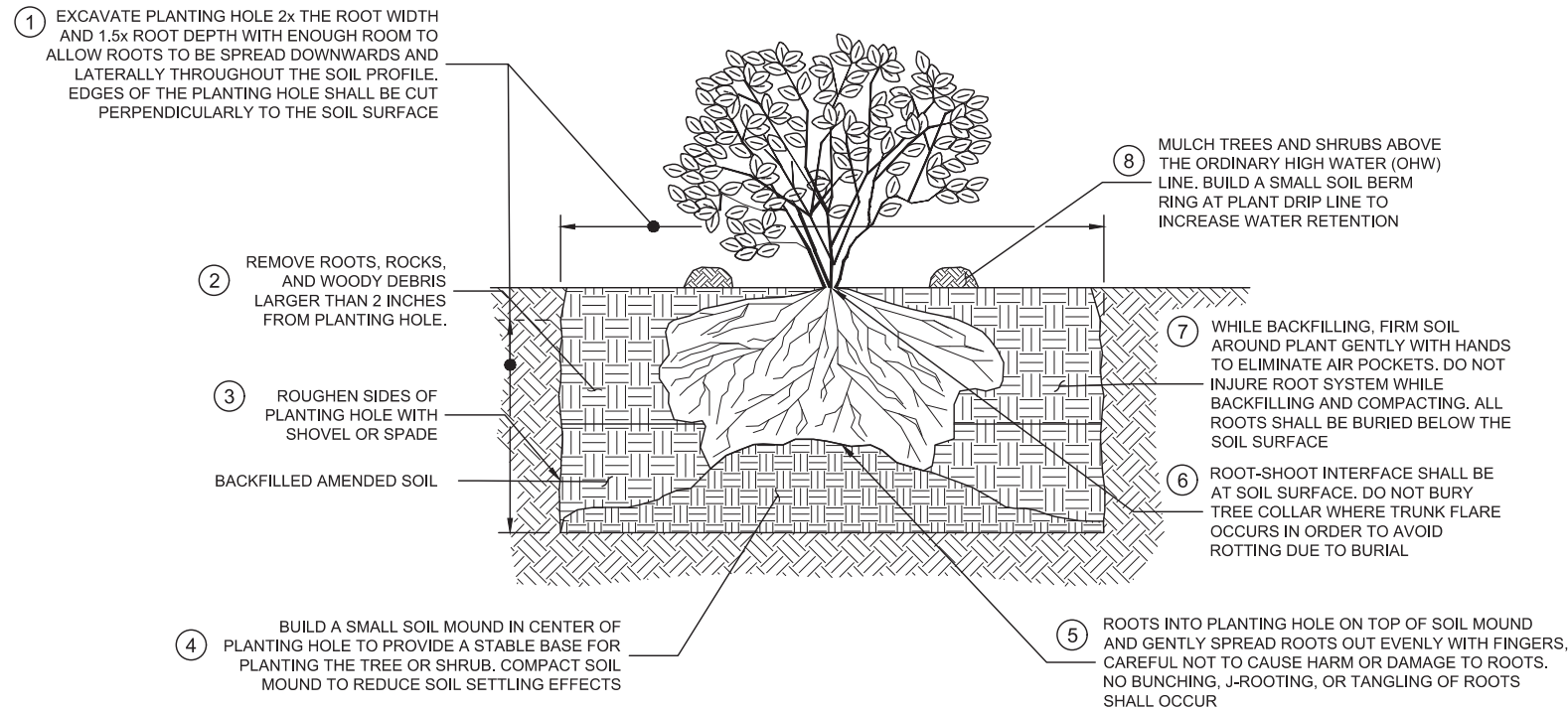
**NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
PLANTING PLAN**

HERRERA
Project No. ###

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Know what's below.
Call before you dig.
Sheet 17 Of 36

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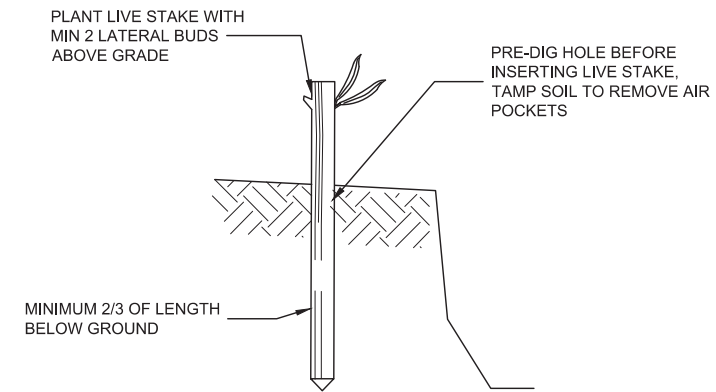
NOTES:

- MULCH TREES AND SHRUBS ABOVE THE ORDINARY HIGH WATER (OHW) LINE. MULCH USING ARBORIST WOOD CHIP MULCH (SEE SPECIFICATIONS).
- STAKE OR MARK OHW LINE IN FIELD PRIOR TO PLANTING TO ENSURE MULCH IS PLACED CORRECTLY.

DETAIL - BAREROOT TREE OR SHRUB PLANTING

SCALE: NTS

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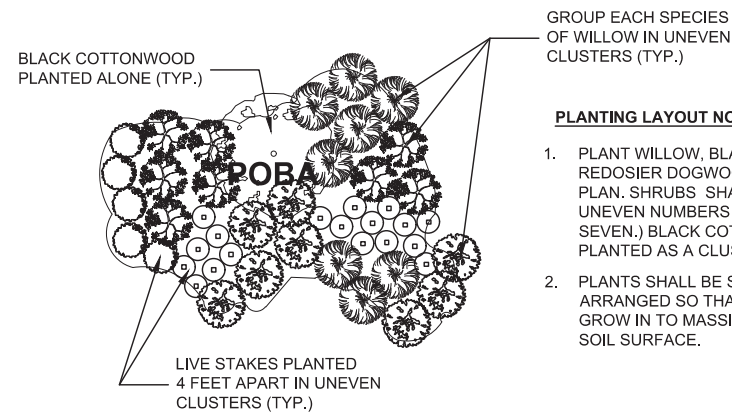
NOTES:

- SOAK BOTTOM 6" OF ALL STAKES IN WATER FOR MINIMUM OF 24 HOURS PRIOR TO PLANTING

LIVE WILLOW STAKE PLANTING DETAIL

SCALE: NTS

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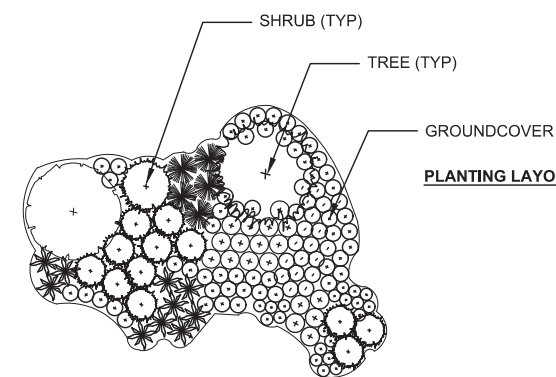
PLANTING LAYOUT NOTES:

- PLANT WILLOW, BLACK COTTONWOOD, AND REDOSIER DOGWOOD STAKES AS SHOWN ON PLAN. SHRUBS SHALL BE IN CLUSTERS OF UNEVEN NUMBERS (E.G. THREE, FIVE, AND SEVEN.) BLACK COTTONWOOD SHALL NOT BE PLANTED AS A CLUSTER.
- PLANTS SHALL BE SPACED 4 FEET APART, ARRANGED SO THAT AS THEY MATURE, THEY GROW IN TO MASSINGS AND FULLY COVER THE SOIL SURFACE.

DETAIL - LIVE STAKE PLANTING LAYOUT, TYP.

SCALE: NTS

3
-



PLANTING LAYOUT NOTES:

- PLANT GROUNDCOVERS, SHRUBS, AND TREES AS SHOWN IN DETAIL, 3 FEET O.C. GROUNDCOVERS AND SHRUBS SHALL BE IN CLUSTERS OF UNEVEN NUMBERS (E.G. THREE, FIVE, SEVEN, ETC.) IN GROUPINGS NO LARGER THAN NINE.
- PLANTS SHALL BE ARRANGED SO THAT AS THEY MATURE, THEY GROW IN TO MASSINGS AND FULLY COVER THE SOIL SURFACE.
- PLANTS ARE PLANTED CLOSELY TOGETHER TO COMPETE WITH INVASIVE PLANT SPECIES WITH MINIMUM MAINTENANCE.

DETAIL - TREE-SHRUB BARE ROOT PLANTING LAYOUT

SCALE: NTS

4
-

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | RG | | | | | |
| | 12/31/19 | RG | | | | | |
| | 12/31/19 | KF | | | | | |

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
PLANTING DETAILS

HERRERA

Project No. ####

Sheet
L2

Sheet 18 Of 36

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

25th Avenue Plant Schedule

| LATIN NAME | COMMON NAME | MATURE HEIGHT | STOCK TYPE | SPACING ON CENTER (FEET) | PLANTING ZONES* | | | | | QUANTITY |
|---|---------------------------|---------------|--------------------|--------------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------|
| | | | | | WS-3 (WETLAND SHRUB) | RB-2 (RIPARIAN BUFFER) | RB-3 (RIPARIAN BUFFER) | WS-4 (WETLAND SHRUB) | UB-2 (UPLAND BUFFER) | |
| Trees | | | | | | | | | | |
| <i>Acer grandidentatum 'Schmidt'</i> | Rocky Mountain Glow maple | 25' | 1"-1.5" Cal. B&B** | 10' | | | | | | |
| <i>Acer macrophyllum</i> | Bigleaf maple | 90' | 36"+ BRS | 10' | | | 6 | | | 6 |
| <i>Fraxinus latifolia</i> | Oregon ash | 80' | 36"+ BRS | 10' | | 4 | 6 | | | 10 |
| <i>Populus balsamifera ssp. trichocarpa</i> | Black cottonwood | 150' | 4' Live Stakes | 4' | 11 | | | 24 | | 35 |
| <i>Pseudotsuga menziesii</i> | Douglas fir | 200' | Plug-15 | 10' | | | 6 | | | 6 |
| <i>Thuja plicata</i> | Western redcedar | 150' | Plug-15 | 10' | | 2 | 6 | | | 8 |
| <i>Tsuga heterophylla</i> | Western hemlock | 150' | Plug-15 | 10' | | 2 | 6 | | | 8 |
| Shrubs | | | | | | | | | | |
| <i>Amelanchier alnifolia</i> | Saskatoon serviceberry | 15' | 18"-36" BRS | 10' | | 1 | 4 | | | 5 |
| <i>Cornus sericea var. stolonifera</i> | Red-osier dogwood | 12' | 4' Live Stakes | 4' | 28 | | | 71 | | 99 |
| <i>Lonicera involucrata</i> | Twinberry honeysuckle | 6' | 18"-36" BRS | 4' | | | | | 55 | 55 |
| <i>Mahonia aquifolium</i> | Hollyleaved barberry | 12' | 18"-36" BRS | 6' | | 3 | 7 | | 18 | 28 |
| <i>Mahonia nervosa</i> | Cascade barberry | 4' | 12-18" BRS | 4' | | 4 | 25 | | 41 | 70 |
| <i>Physocarpus capitatus</i> | Pacific Ninebark | 15' | 18"-36" BRS | 6' | | 2 | 7 | | 0 | 9 |
| <i>Ribes sanguineum</i> | Red-flowering currant | 6' | 18"-36" BRS | 6' | | | 11 | | 41 | 52 |
| <i>Rosa nutkana var. nutkana</i> | Nootka rose | 8' | 18"-36" BRS | 4' | | 9 | 25 | | 41 | 75 |
| <i>Rubus parviflorus</i> | Thimbleberry | 6' | 18"-36" BRS | 4' | | 2 | 25 | | 28 | 55 |
| <i>Rubus spectabilis</i> | Salmonberry | 8' | 36"+ BRS | 4' | | 9 | 8 | | 28 | 17 |
| <i>Salix hookeriana</i> | Dune willow | 10' | 4' Live Stakes | 4' | 17 | | | 36 | | 53 |
| <i>Salix lucida ssp. lasiandra</i> | Pacific willow | 25' | 4' Live Stakes | 4' | 22 | | | 36 | | 58 |
| <i>Salix scouleriana</i> | Scouler willow | 25' | 4' Live Stakes | 4' | 17 | | | 36 | | 53 |
| <i>Salix sitchensis</i> | Sitka willow | 25' | 4' Live Stakes | 4' | | | | 36 | | 36 |
| <i>Symphoricarpos albus</i> | Snowberry | 4' | 36"+ BRS | 4' | | | | | 28 | 28 |
| | | | | | | | | | | 766 |

| SEED MIXTURE EC (EROSION CONTROL) 0.04 ACRES | | | | |
|--|------------------|---------------|-----------------------------|---------------------|
| LATIN NAME | COMMON NAME | MATURE HEIGHT | PERCENT SPECIES COMPOSITION | PLS POUNDS PER ACRE |
| <i>Achillea millefolium</i> | Yarrow | 24" | 0.05 | 0.04 |
| <i>Bromus carinatus</i> | California brome | 24" | 0.15 | 6.34 |
| <i>Deschampsia caespitosa</i> | Tufted hairgrass | 24" | 0.3 | 0.51 |
| <i>Elymus glaucus</i> | Blue wildrye | 12" | 0.35 | 11.91 |
| <i>Lupinus rivularis</i> | Riverbank lupine | 12" | 0.05 | 7.50 |
| <i>Triticum aestivum</i> | Regreen | 24" | 0.1 | 34.86 |

| PLANTING ZONE AREAS (SQUARE FEET) | | | | | |
|--|---------------------|-----------------------|-----------------------|---------------------|---------------------|
| | NC (NARROW CHANNEL) | RB2 (RIPARIAN BUFFER) | RB3 (RIPARIAN BUFFER) | WS3 (WETLAND SHRUB) | UB2 (UPLAND BUFFER) |
| TOTAL AREA | 862 | 1243 | 2715 | 6599 | 5110 |
| ESTIMATE OF EXISTING NATIVE VEGETATION TO PRESERVE | 86 | 622 | 407 | 3300 | 1278 |
| PLANTING AREA (WEED CONTROL AND BARE GROUND) | 776 | 622 | 2308 | 3300 | 3833 |

PLANTING NOTES

- SEEDING SHALL BE APPLIED PER SECTION 8.02(3)B. SEEDS SHALL HAVE GOOD SOIL CONTACT.
- SEEDING SHALL OCCUR BETWEEN SEPTEMBER 15TH AND OCTOBER 31ST PRIOR TO INSTALLATION OF PLANT MATERIAL.
- PLANT MATERIAL SHALL BE INSTALLED BETWEEN OCTOBER AND MARCH ACCORDING TO SECTION 9-14.2.
- DUE TO FLOODPLAIN INUNDATION, NO MULCH SHALL BE PLACED BELOW THE ORDINARY HIGH WATER (OHW) LINE (MARKED IN FIELD). ARBORIST WOOD CHIP MULCH SHALL ONLY BE PLACED ABOVE THE OHW LINE.
- INVASIVE SPECIES WITHIN THE PLANTING AREAS SHALL BE REMOVED AND TREATED PER CITY CODE PRIOR TO PLANTING. HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM), ENGLISH IVY (HEDERA HELIX) AND REED CANARYGRASS (PHALARIS ARUNDINACEA) AREA THE PRIMARY INVASIVE WEED SPECIES PRESENT ON SITE.
- EXISTING TREES SHALL BE PROTECTED DURING CONSTRUCTION. AN APPROVED TREE PROTECTION PLAN SHOULD BE ESTABLISHED PRIOR TO THE START OF THE PROJECT.

* SQUARE FOOTAGE CONSIDERS EXISTING CANOPY COVER OF NATIVE TREE AND SHRUB SPECIES. SQUARE FOOTAGE ON PLANT SCHEDULE REFLECTS THE ESTIMATION OF PLANTING AREA AFTER INVASIVE SPECIES REMOVAL, NOT THE SQUARE FOOTAGE OF THE ENTIRE AREA.
 ** ROCKY MOUNTAIN GLOW MAPLE IS NOT INCLUDED IN ANY ZONES, AS IT IS THE PROPOSED STREET TREE ALONG 25TH AVENUE.

| Description | | | |
|-------------|----------|----------|-----------|
| Date | 12/31/19 | 12/31/19 | 12/31/19 |
| Initials | RG | RG | KF |
| Drawn | | Designed | Checked |
| Revisions | | | Revisions |



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NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
 60% REVIEW SUBMITTAL
 PLANT SCHEDULE



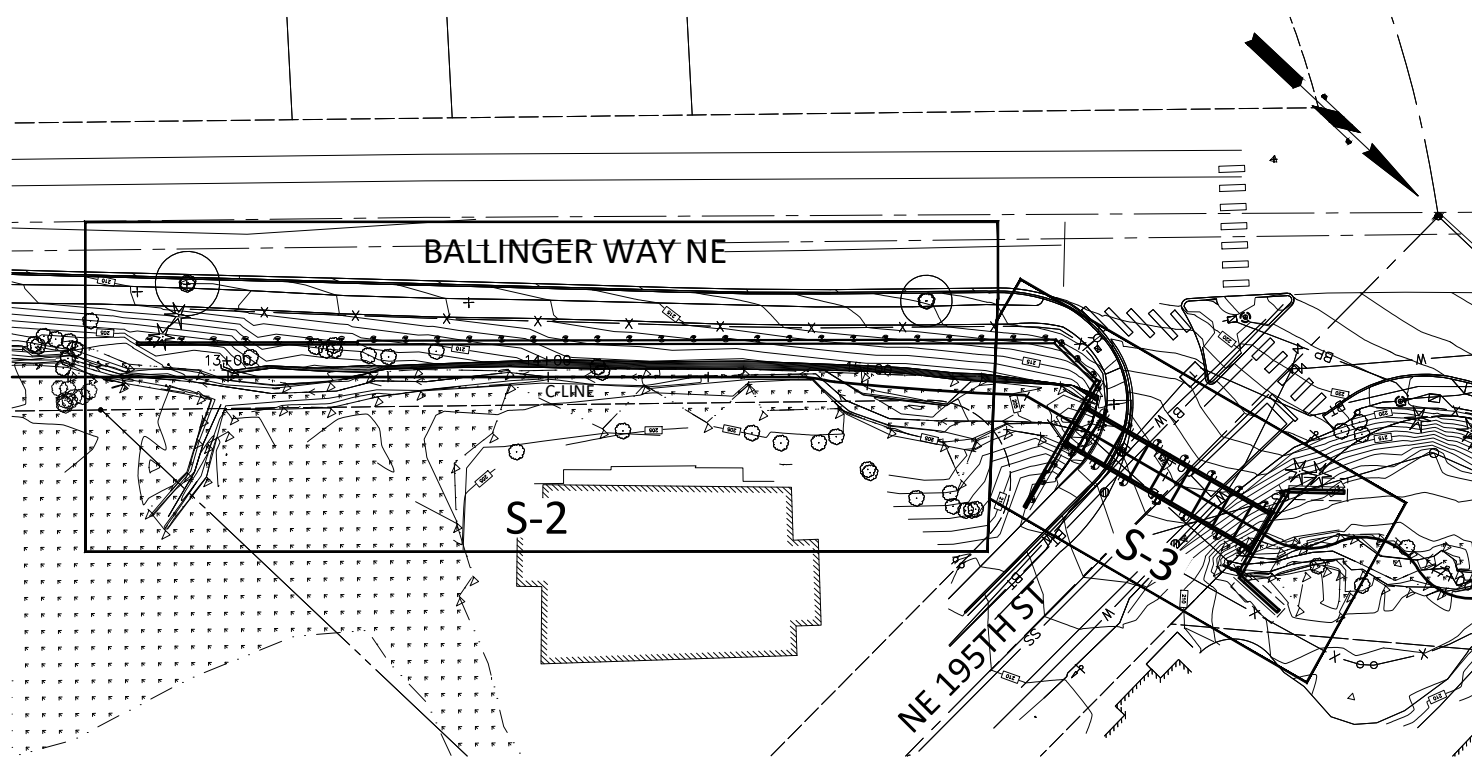
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 Project No. ####

Sheet **L3**
 Sheet 19 Of 36



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VERIFY SCALE - BARS ONE INCH ON ORIGINAL DRAWING 0 1" - IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



PROJECT LAYOUT - STRUCTURES

GENERAL NOTES

- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION - DATED 2020, AND AMENDMENT EXCEPT AS NOTED BELOW.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, UNLESS NOTED OTHERWISE.
- UNLESS OTHERWISE SHOWN ON THE PLAN, THE CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2".
- ALL DIMENSIONS ARE HORIZONTAL AND VERTICAL UNLESS OTHERWISE SHOWN.
- EXISTING GROUND LINE IS APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
- EXISTING STRUCTURES ARE SHOWN ON THE PLANS WITH APPROXIMATE LOCATIONS AND DIMENSIONS BASED ON THE AVAILABLE AS-BUILT INFORMATION. THOSE SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. ANY DISCREPANCIES LEADING TO SPATIAL CONFLICTS WITH NEW STRUCTURES SHALL BE REPORTED TO THE ENGINEER FOR REVIEW AND RESOLUTION.
- THE DESIGN IS BASED ON GEOTECHNICAL MEMORANDUM TITLED: DRAFT PRELIMINARY GEOTECHNICAL ENGINEERING REPORT - 25TH AVENUE NE FLOOD REDUCTION, FILE NO. _____, DATED SEPTEMBER 6TH, 2016 AND OTHER CORRISPONDANCES WITH THE PROJECT GEOTECHNICAL ENGINEER, TERRACON CONSULTANTS, INC.
- CONTRACTOR SHALL COORDINATE BOX CULVERT WIDTHS WITH TOTAL WIDTH REQUIRED FOR EACH PHASE OF ELEMENT (OPEN CULVERT, WALL, CULVERTS, ETC.) CONSTRUCTION.

TEMPORARY LAGGING

- SAWN LUMBER SHALL CONFORM TO THE REQUIREMENTS OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), SECTION 123-b. LUMBER SHALL BE UNTREATED AND CONFORM TO THE SPECIES AND GRADE NOTED BELOW:

| | |
|-----------------------|---|
| USE: | SOLDIER PILE WALL LAGGING |
| GRADE: | DOUGLAS FIR-LARCH NO. 2 OR BETTER |
| SIZE CLASS: | BEAMS AND STRINGERS |
| BENDING DESIGN VALUE: | Fb = 900 PSI |
| THICKNESS: | 4x PER GEOTECHNICAL MEMORANDUM EXCEPT AS NOTED OTHERWISE. |
- THE CONTRACTOR SHALL EXCAVATE THE WALL FACE AND INSTALL THE LAGGING IN SUCH A MANNER AS TO MAINTAIN A SAFE WORK PLACE AND AVOID EXCESSIVE SLOUGHING AND OVERBREAK. AS A MINIMUM, PRIOR TO PLACING THE SUBSEQUENT SET OF TIMBER LAGGING, THE CONTRACTOR SHALL NOT EXCAVATE MORE THAN 3 FEET BELOW THE CURRENT DEPTH OF LAGGED WALL FACE.
- LAGGING SHALL BE PLACED WITHIN 1 HOUR OF FACE EXCAVATION. OVER-EXCAVATED ZONES BEHIND LAGGING BOARDS SHALL BE BACKFILLED WITH FREE-DRAINING MATERIAL.
- TEMPORARY PRECAST LAGGING (SEE WALLS W2 & W3) SHALL BE BASED ON PLANS & SPECIAL PROVISION 6.16.3(6)B.

STRUCTURAL CONCRETE

| CONC CLASS | LOCATION | COMPRESSIVE STRENGTH AT 28 DAYS f'c [PSI] | MIN COMPRESSIVE STRENGTH AT RELEASE |
|------------|------------------------|---|-------------------------------------|
| - | PUMPABLE LEAN CONCRETE | - | - |
| 4,000 | PRECAST CONCRETE | 4,000 PSI | ** |
| 4,000 | ALL OTHER | 4,000 PSI | 2,500 PSI * |

* SEE STANDARD SPECIFICATIONS FOR MINIMUM CURING TIME
 ** BASED ON CONTRACTOR'S RELEASE & LIFTING DESIGN

REINFORCING STEEL

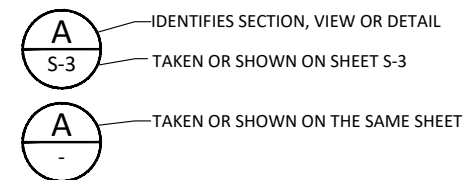
STEEL REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND SPECIFIED STRENGTH.

| REINFORCEMENT | AASHTO STANDARD | GRADE |
|---------------------------|-----------------|-------|
| DEFORMED BARS | M31 | 60 |
| PLAIN WIRE (WELDED) | M55 | 70 |
| PRESTRESSED REINFORCEMENT | M203 | 270 |

STRUCTURAL STEEL

| SECTION | STANDARD | GRADE | STRENGTH |
|------------------------|------------|-------|-----------|
| ANGLES & PLATES | ASTM A36 | 36 | Fy=36 KSI |
| PLATES WHERE INDICATED | ASTM A572 | 50 | Fy=50 KSI |
| PIPES | ASTM A53 | B | Fy=35 KSI |
| WIDE FLANGE | ASTM A992 | 50 | Fy=50 KSI |
| ANCHOR RODS | ASTM F1554 | 36 | Fy=36 KSI |

LEGEND

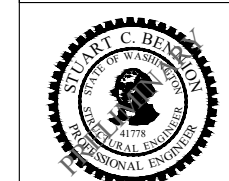


| Initials | Date | Description |
|----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
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| | | |

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NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
 60% REVIEW SUBMITTAL
 STRUCTURAL SHEET LAYOUT
 GENERAL NOTES



Project No. WA16.0261.00

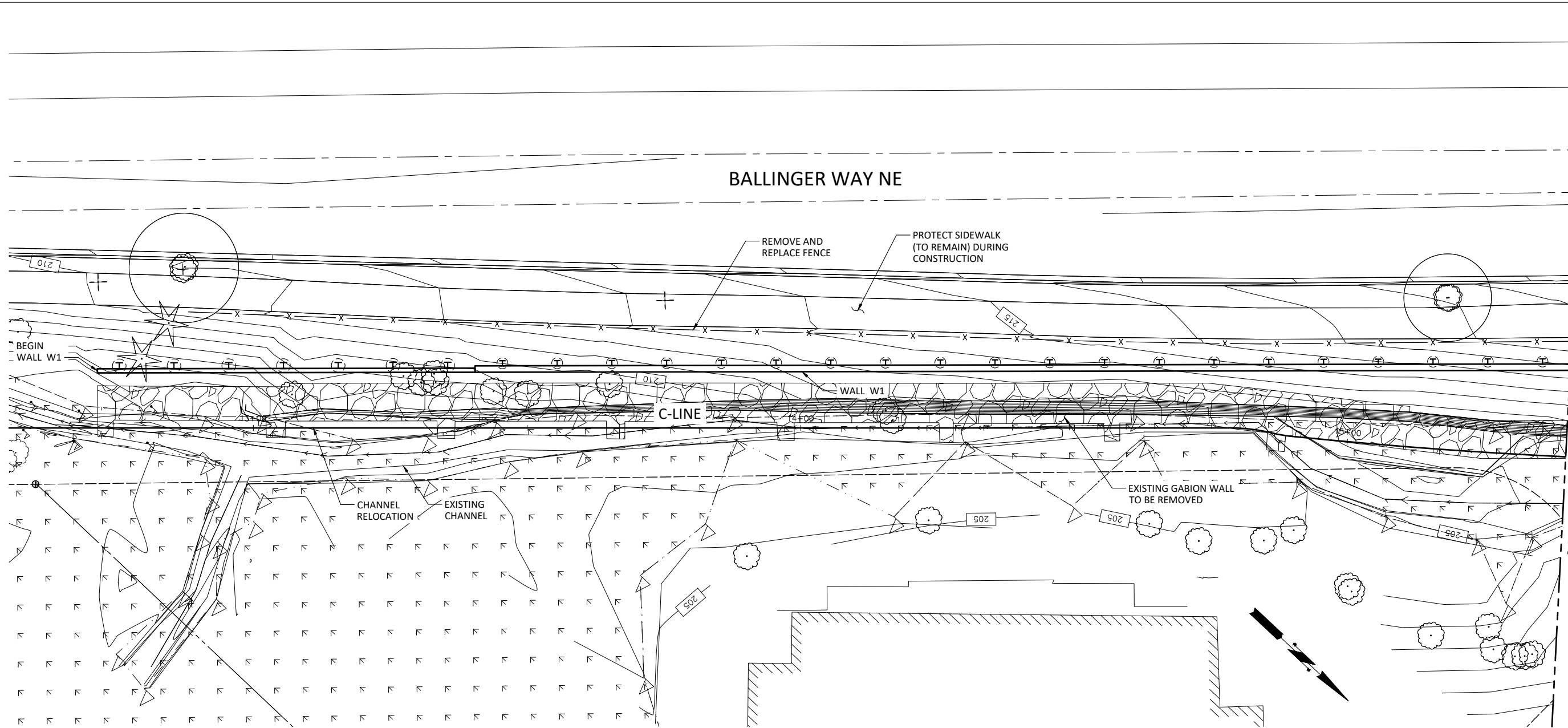
Sheet **S-1**

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PRELIMINARY



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WALL W1 PLAN VIEW



MATCH LINE STA 15+40, SEE SHEET S-3

- NOTES TO DESIGNER:**
1. UTILITIES HAVE NOT BEEN LOCATED UNDER BALLINGER WAY NE.
 2. GEOTECHNICAL EVALUATION NEEDED FOR ANCHOR ZONE THROUGH OR BEYOND BALLINGER WAY NE SUBGRADE.
 3. ROW COORDINATION NEEDED FOR SUBSURFACE EASEMENTS.

| Initials | Date | Description |
|----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| | | Revisions |
| | | Revisions |

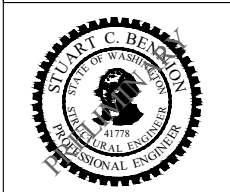


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(206) 368-5440

NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
STRUCTURAL LAYOUT
SHEET 1



Project No. WA16.0261.00

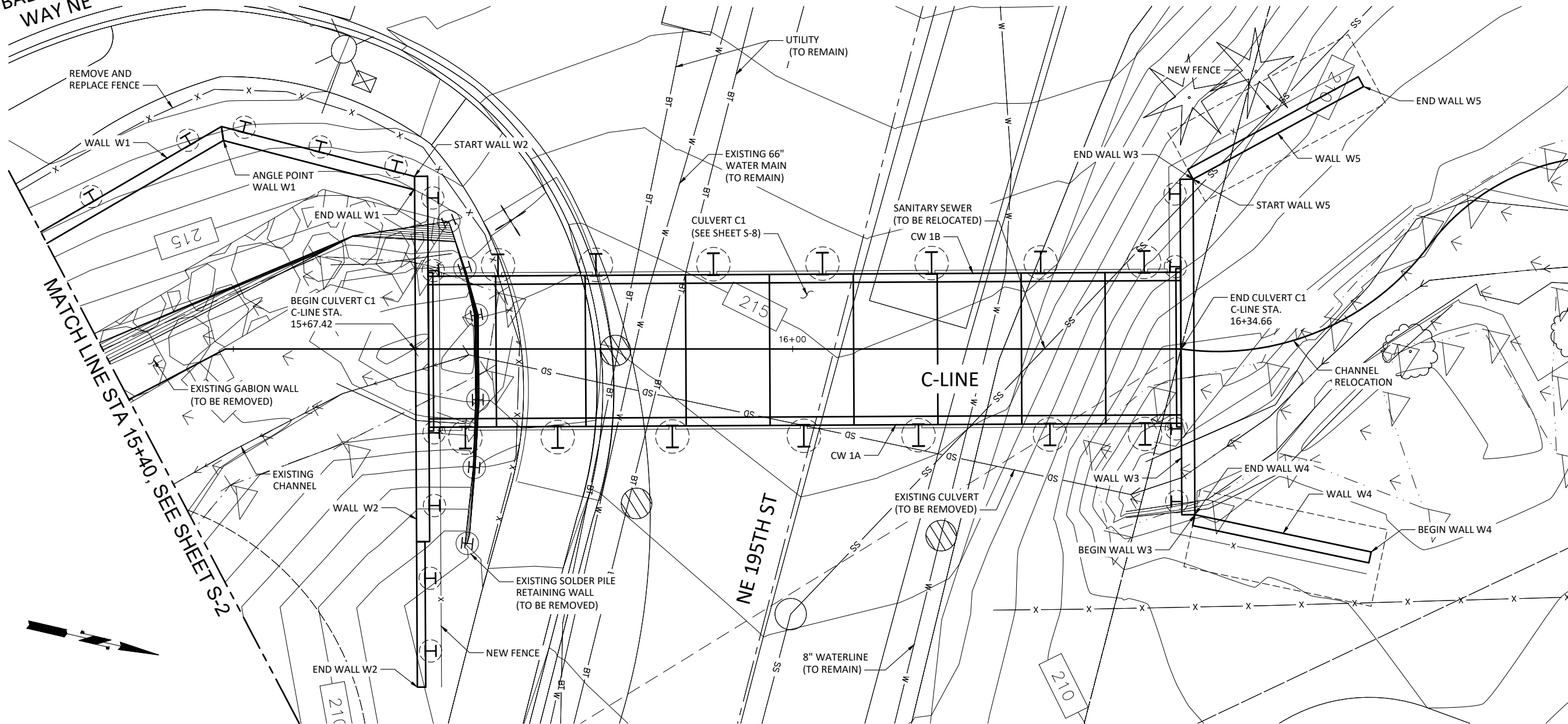
Sheet **S-2**

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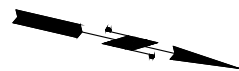
PRELIMINARY



BALLINGER WAY NE



WALLS W1 - W5 & CULVERT C1 PLAN VIEW



KEY:

CW1A = CULVERT WALL 1A
CW1B = CULVERT WALL 1B

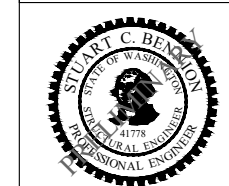
| Initials | Date | Description |
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| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |

WSP

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
STRUCTURAL LAYOUT
SHEET 2



Project No. WA16.0261.00

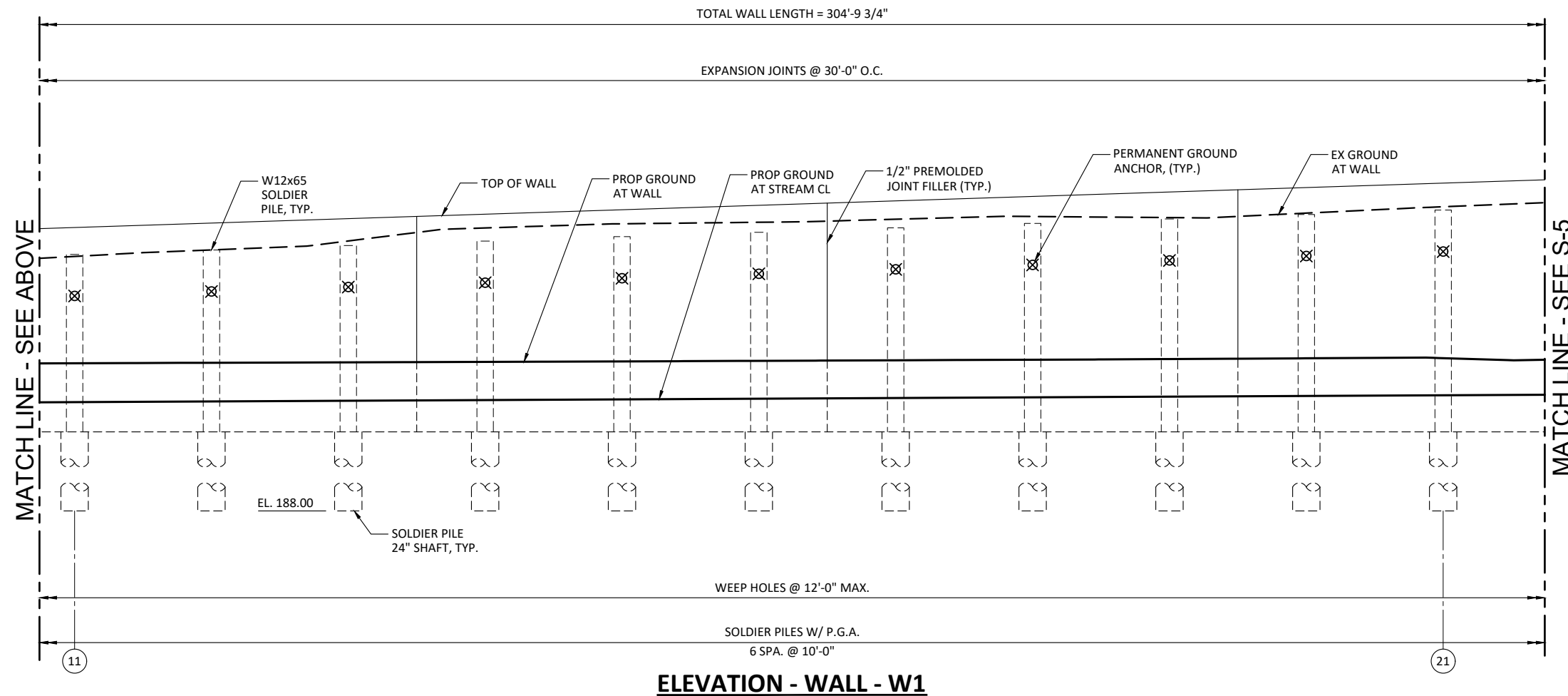
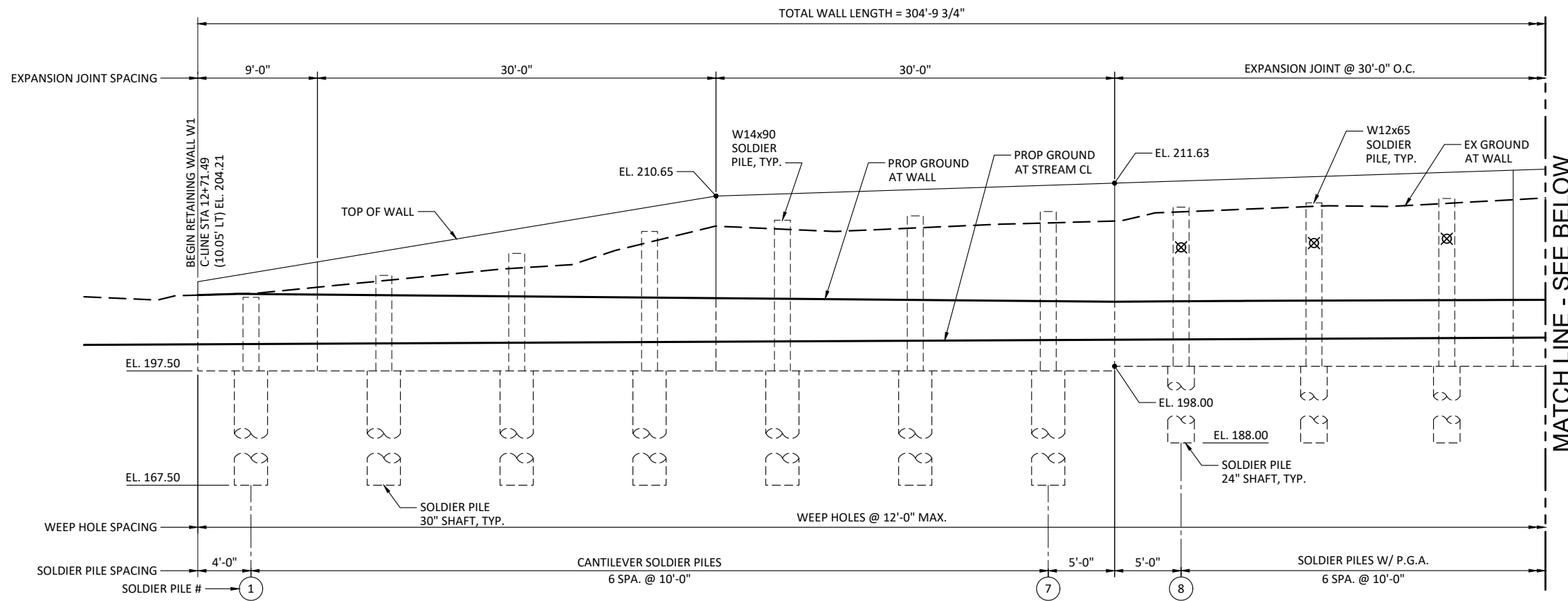
Sheet **S-3**

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PRELIMINARY

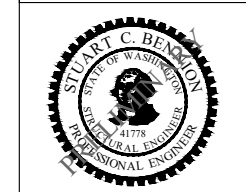




| Initials | Date | Description |
|-----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| Revisions | | |
| Revisions | | |



NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
 60% REVIEW SUBMITTAL
 WALL ELEVATIONS
 SHEET 1



Project No. WA16.0261.00

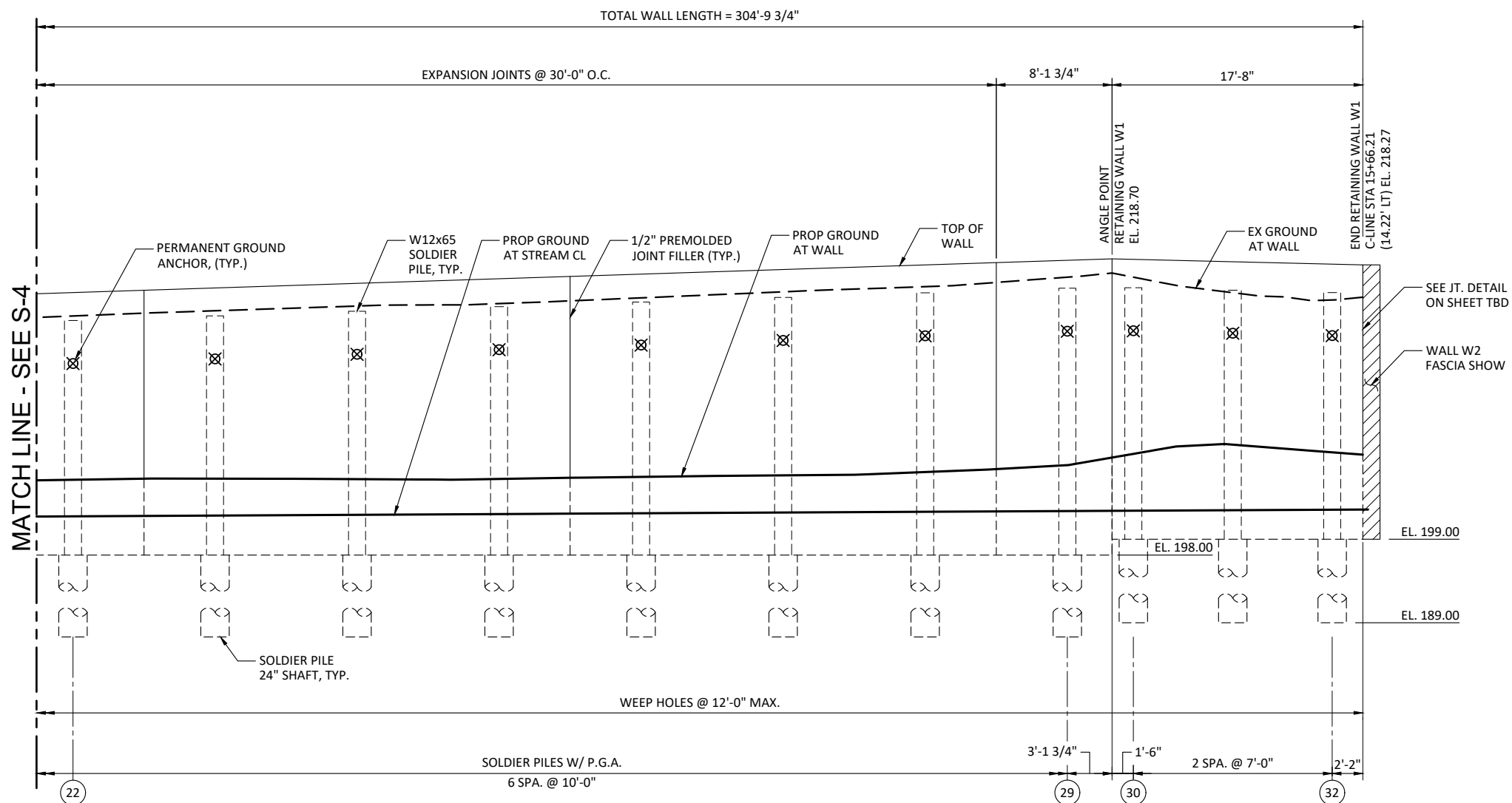
Sheet **S-4**

Sheet 26 Of 36

PRELIMINARY



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ELEVATION - WALL W1

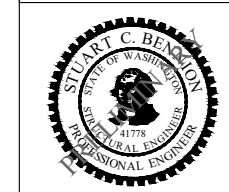
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| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| Revisions | | |
| Revisions | | |

wsp

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
WALL ELEVATIONS
SHEET 2



Project No. WA16.0261.00

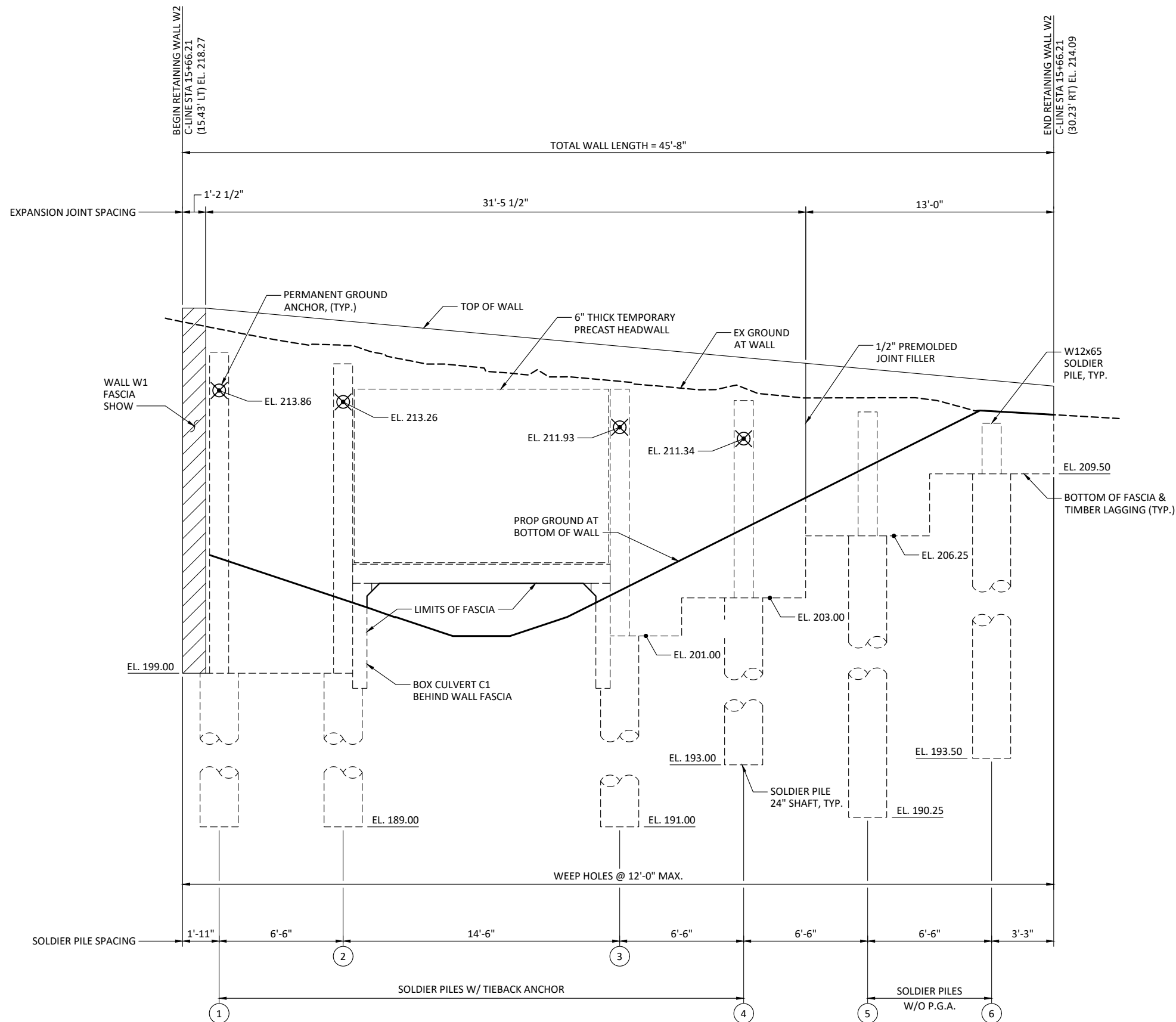
Sheet **S-5**

Sheet 27 Of 36

PRELIMINARY



VERIFY SCALE - BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" - IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



ELEVATION - WALL W2

| Initials | Date | Description |
|----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| | | |
| | | |

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
WALL ELEVATIONS
SHEET 3

Project No. WA16.0261.00

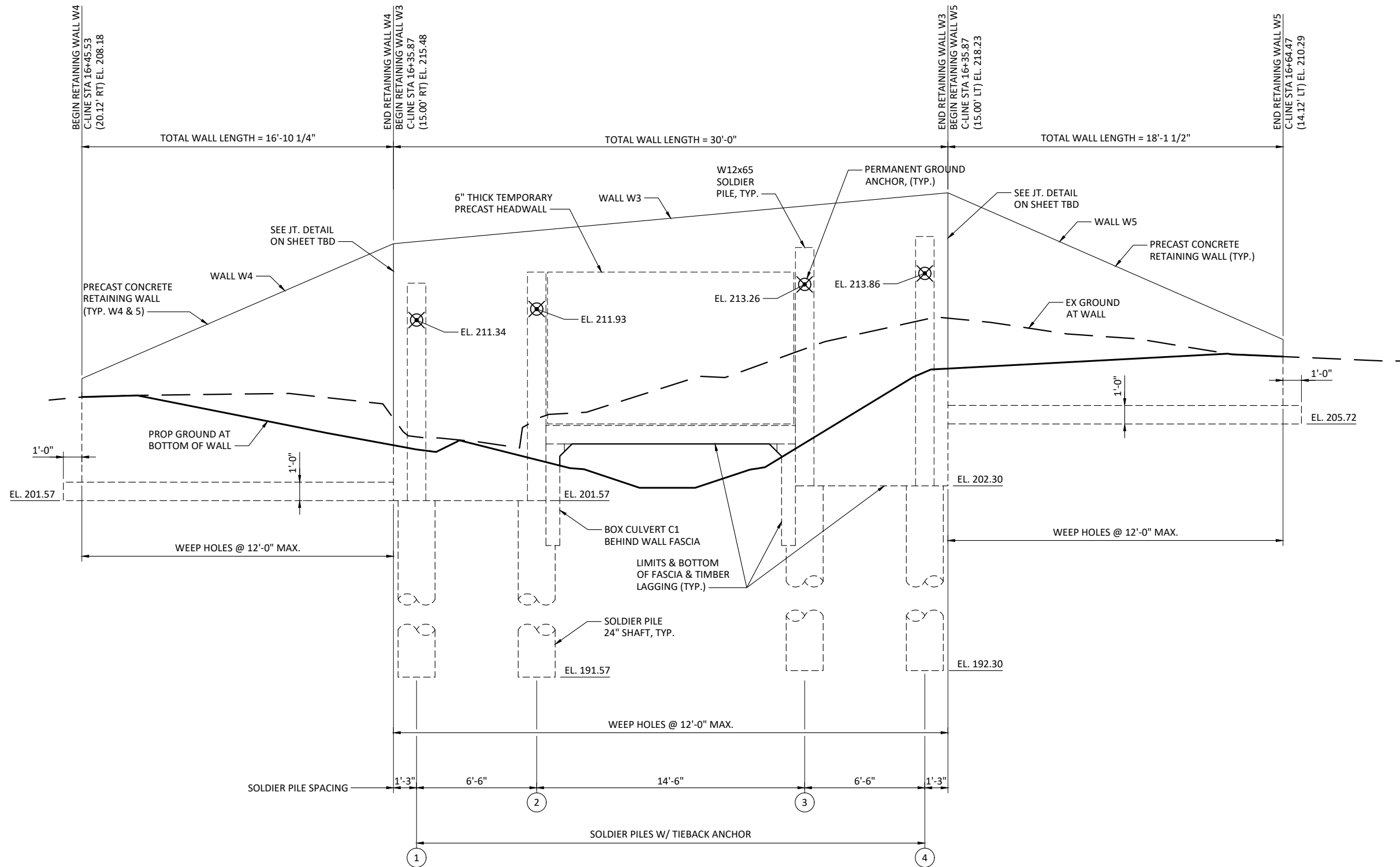
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PRELIMINARY

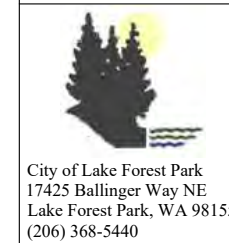


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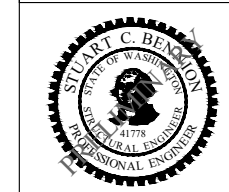


ELEVATION - W3, W4, & W5 WALLS

| Initials | Date | Description |
|----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
WALL ELEVATIONS
SHEET 4



Project No. WA16.0261.00

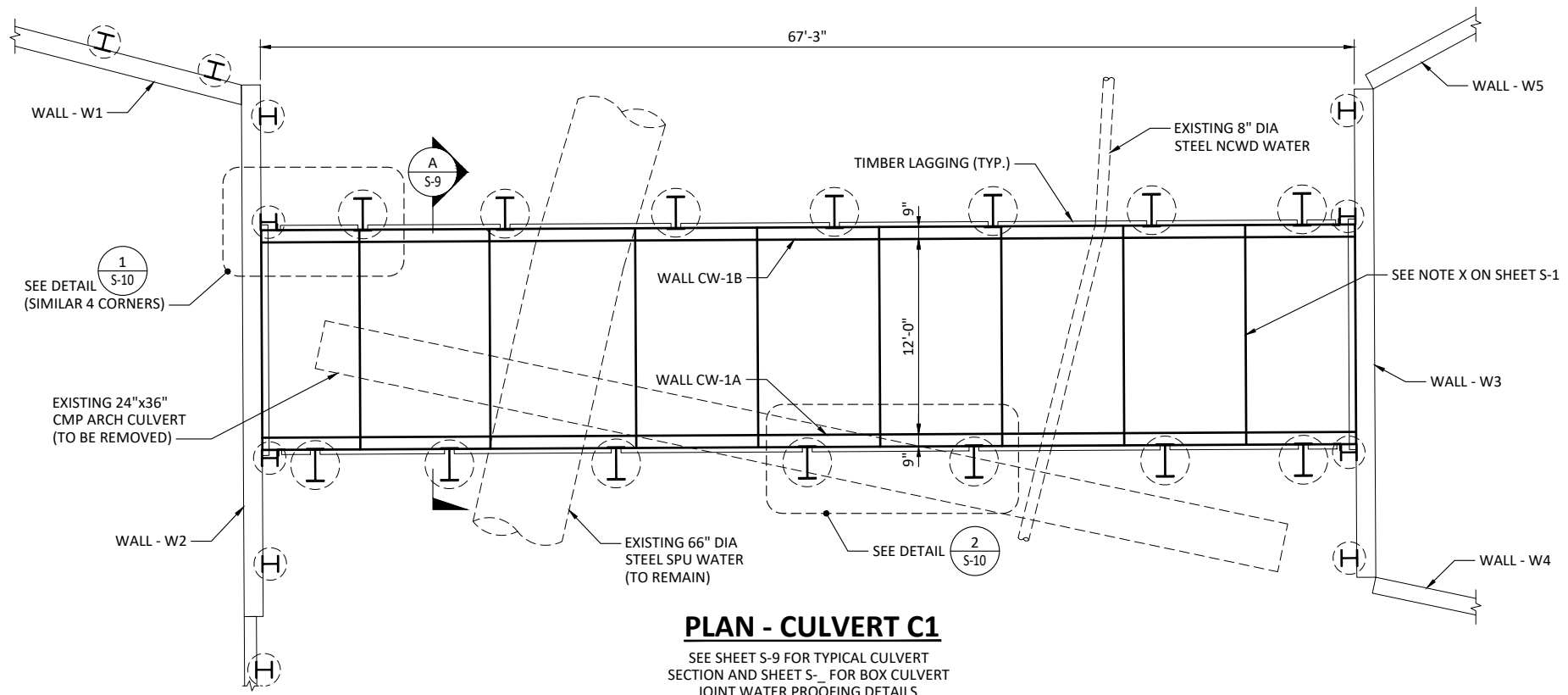
Sheet **S-7**

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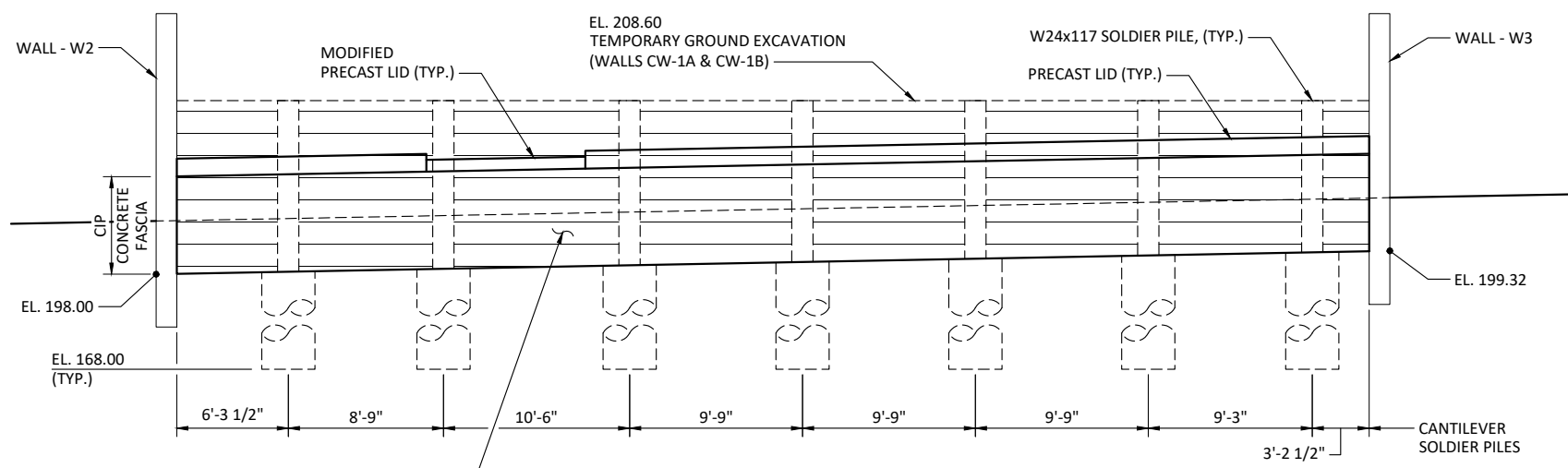
PRELIMINARY



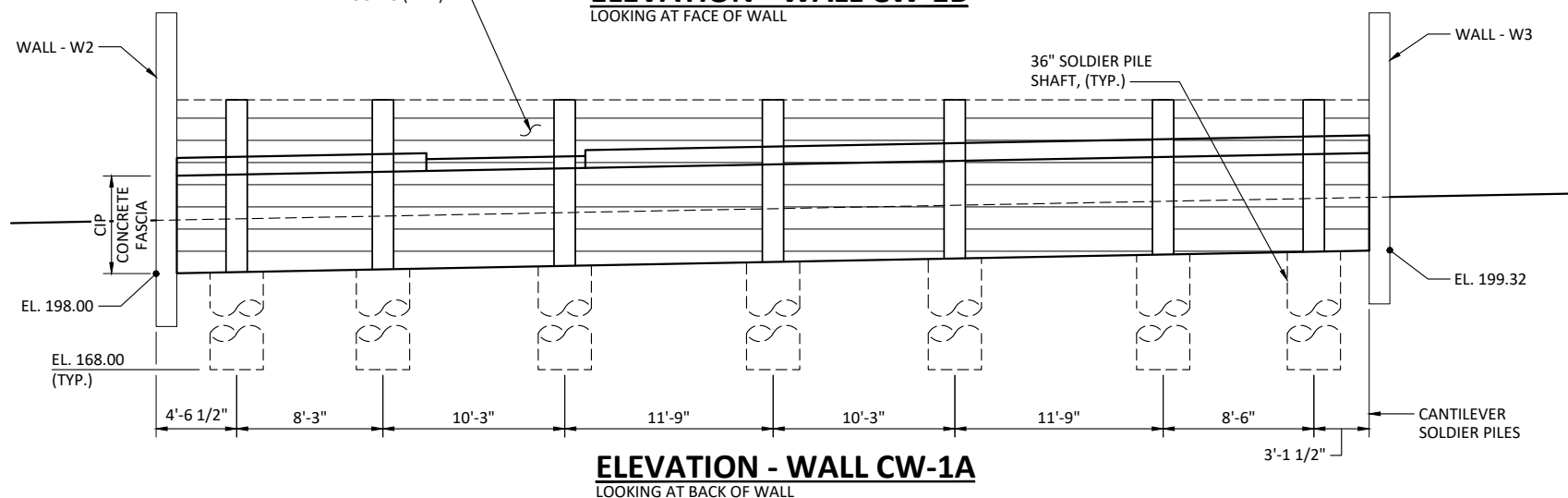
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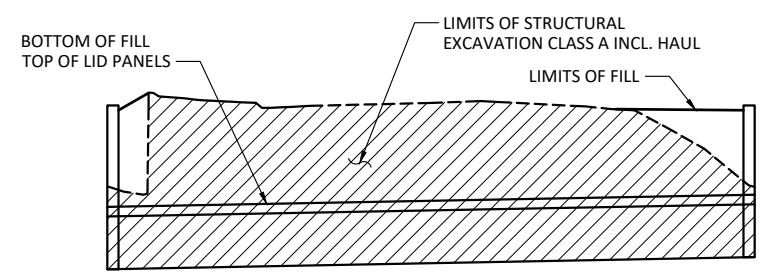
PLAN - CULVERT C1
SEE SHEET S-9 FOR TYPICAL CULVERT SECTION AND SHEET S- FOR BOX CULVERT JOINT WATER PROOFING DETAILS.



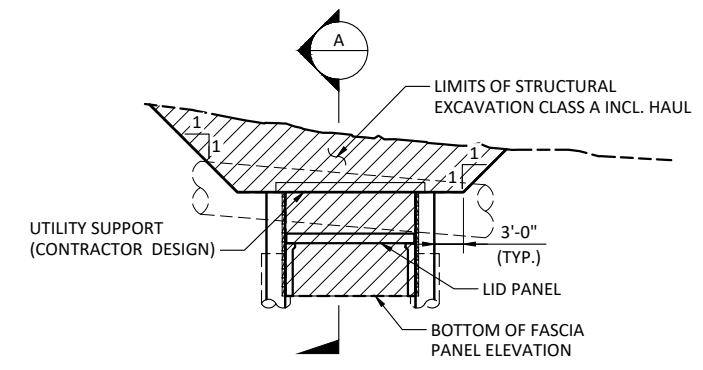
ELEVATION - WALL CW-1B
LOOKING AT FACE OF WALL



ELEVATION - WALL CW-1A
LOOKING AT BACK OF WALL



SECTION - CULVERT C1 EXCAVATION



CULVERT C1 EXCAVATION DETAIL

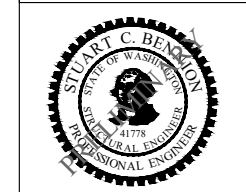
NOTES TO DESIGNER:

1. NEED TO DETERMINE FENCE OR RAILING AT 195TH.
2. NEED TO SPECIFY SUPPORT OF 66" WATER LINE FROM WALLS CW-1A AND CW-1B.

| Initials | Date | Description |
|-----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| Revisions | | |
| Revisions | | |



NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
CULVERT C1
PLAN & ELEVATION



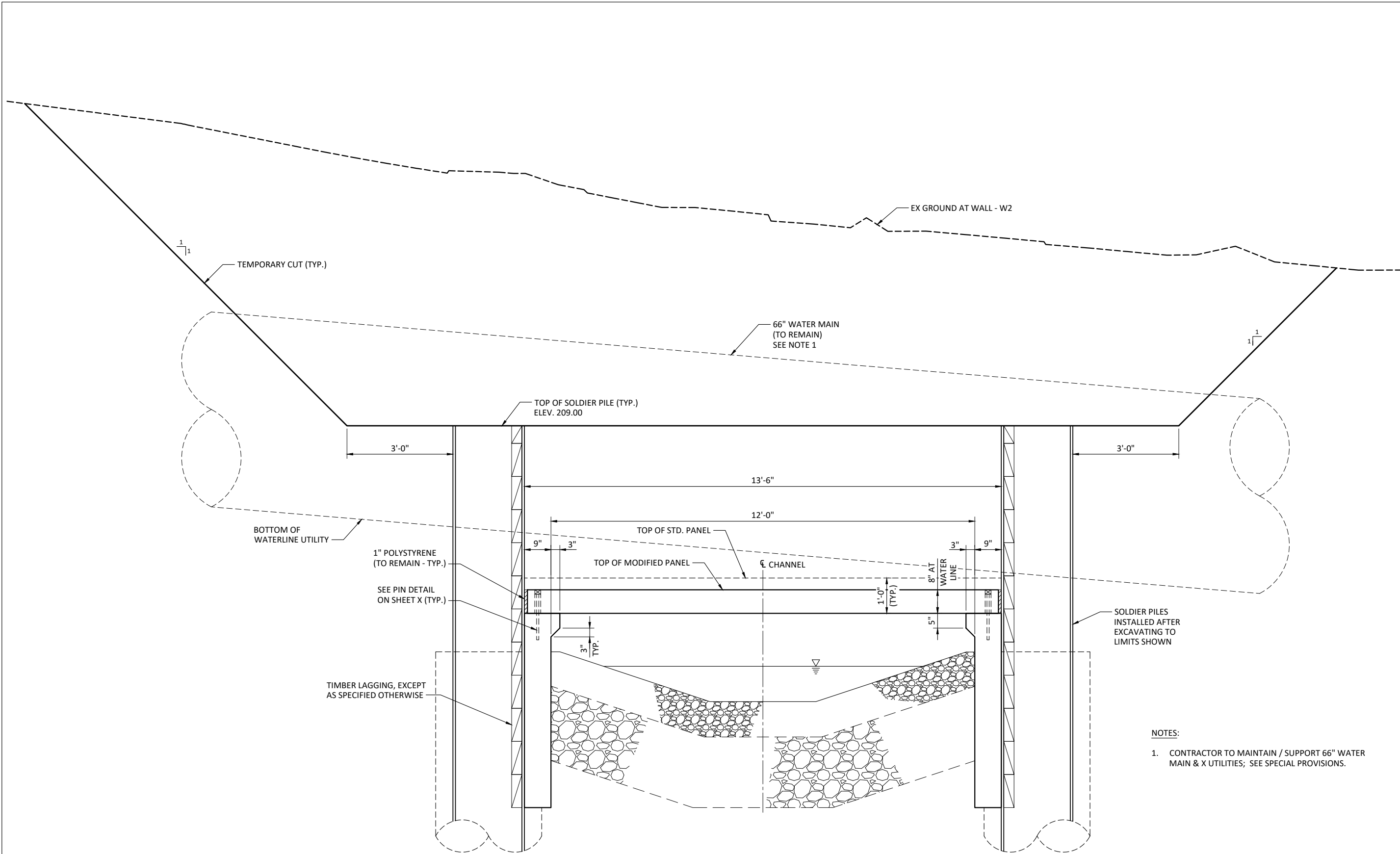
Project No. WA16.0261.00

Sheet **S-8**

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PRELIMINARY





- NOTES:
- CONTRACTOR TO MAINTAIN / SUPPORT 66" WATER MAIN & X UTILITIES; SEE SPECIAL PROVISIONS.

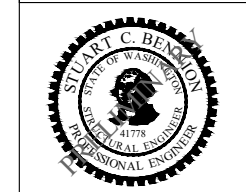
TYPICAL SECTION CULVERT - C1

| Initials | Date | Description |
|----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| | | Revisions |
| | | Revisions |

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
CULVERT C1 TYPICAL SECTION



Project No. WA16.0261.00

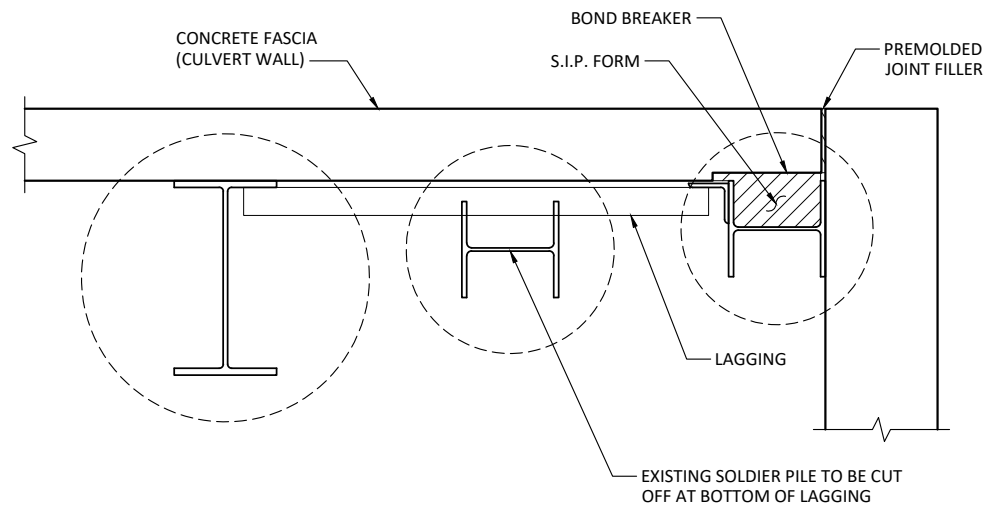
Sheet **S-9**

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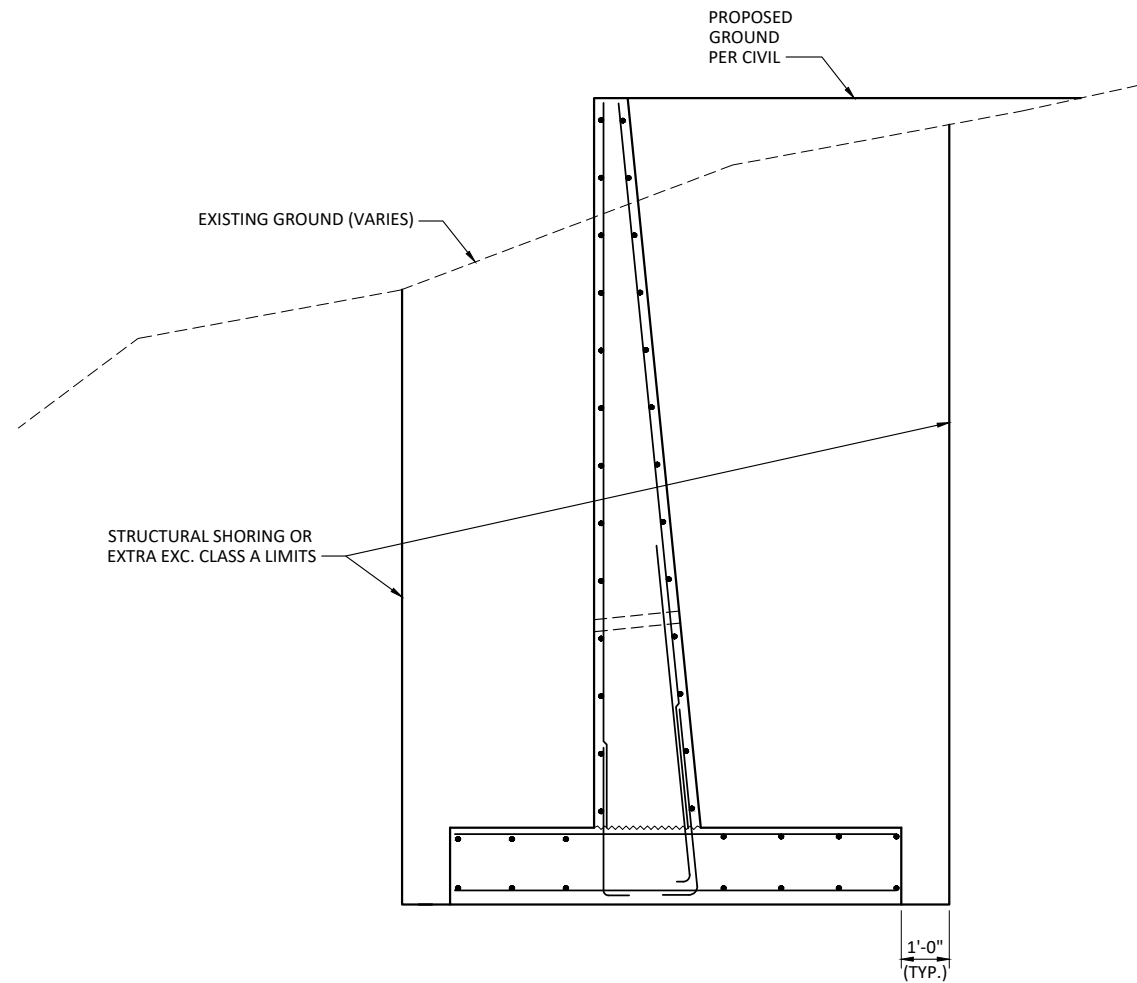
PRELIMINARY



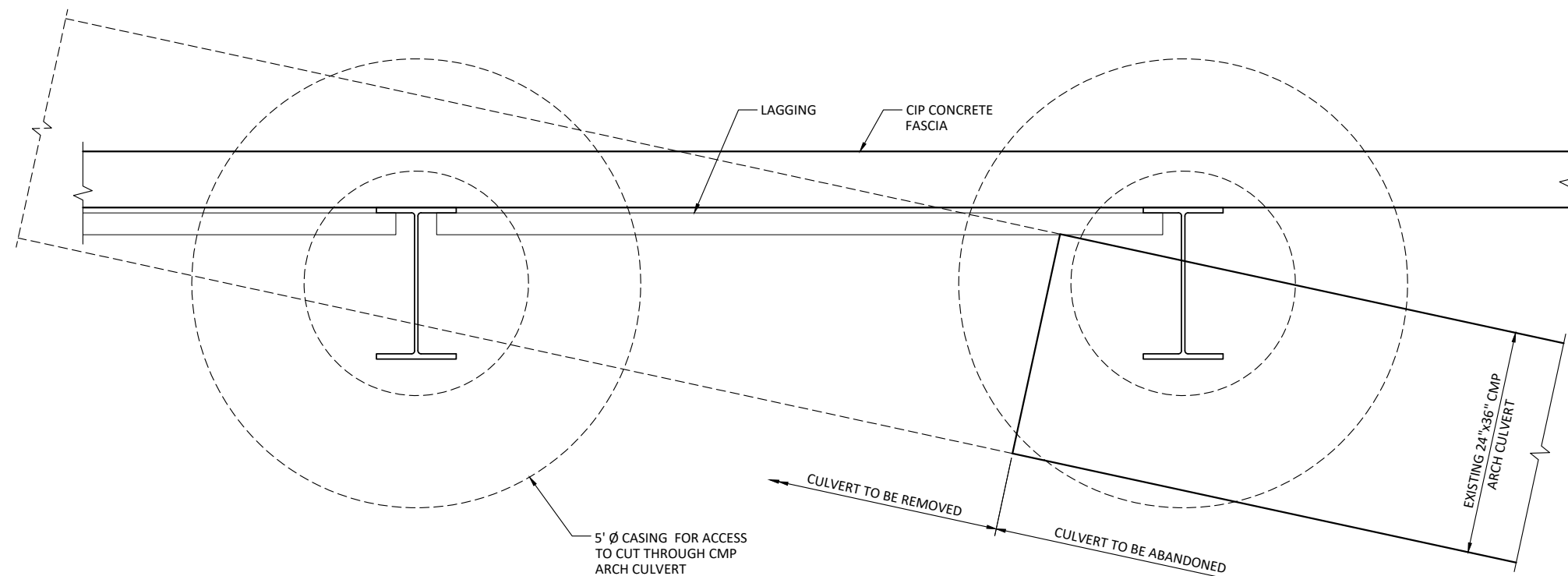
VERIFY SCALE - BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" - IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



1
S-8 **CULVERT C1 END DETAIL**



PRECAST WALL INSTALLATION DETAIL



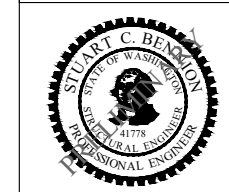
2
S-8 **SOLDIER PILE / EXISTING CULVERT INTERFERENCE DETAIL**

| Initials | Date | Description |
|-----------|----------|-------------|
| DRW | 12/31/19 | |
| DES | 12/31/19 | |
| CHK | 12/31/19 | |
| Revisions | | |
| Revisions | | |

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NE 195TH STREET BALLINGER CREEK
CULVERT REPLACEMENT
60% REVIEW SUBMITTAL
MISC. DETAILS



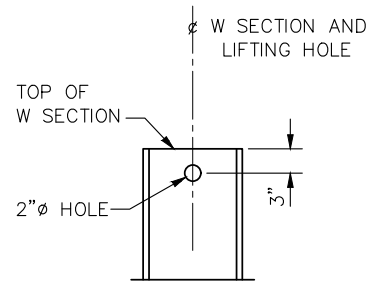
Project No. WA16.0261.00

Sheet **S-10**

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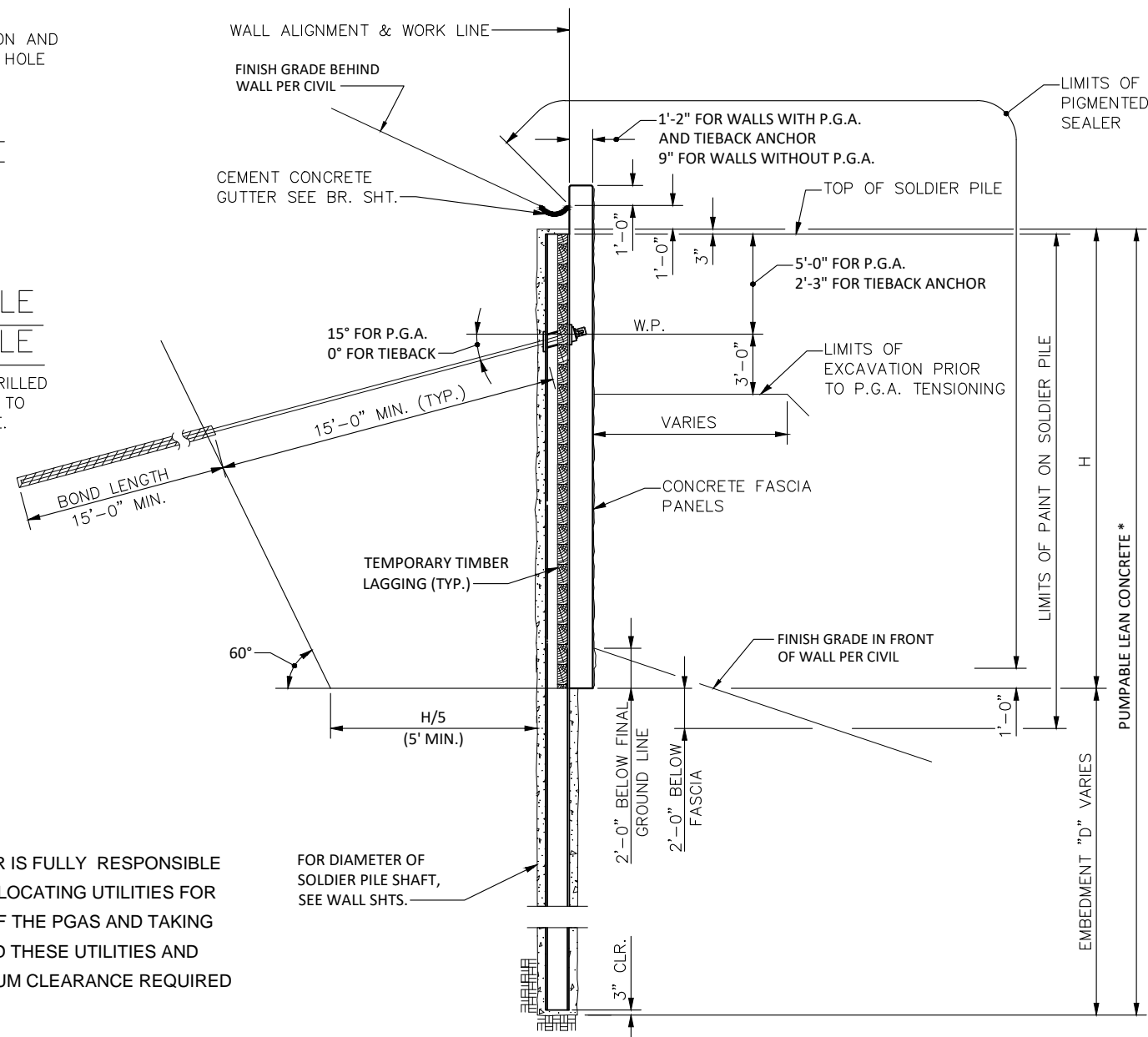
PRELIMINARY





SOLDIER PILE LIFTING HOLE

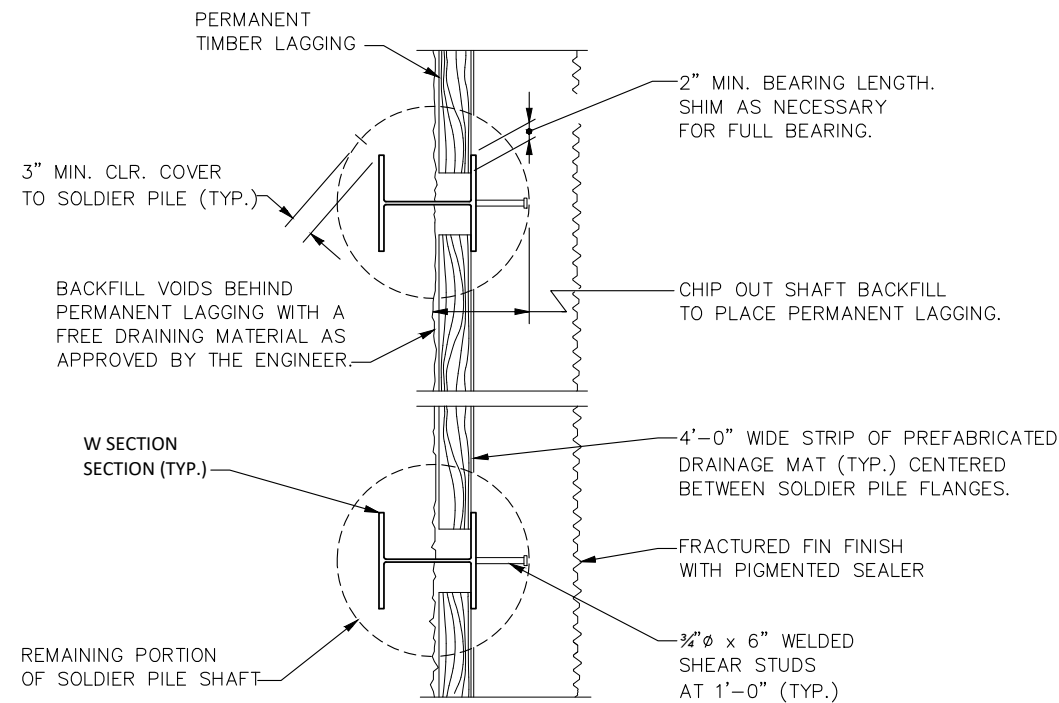
LIFTING HOLE TO BE DRILLED IN THE SHOP PRIOR TO PAINTING THE PILE.



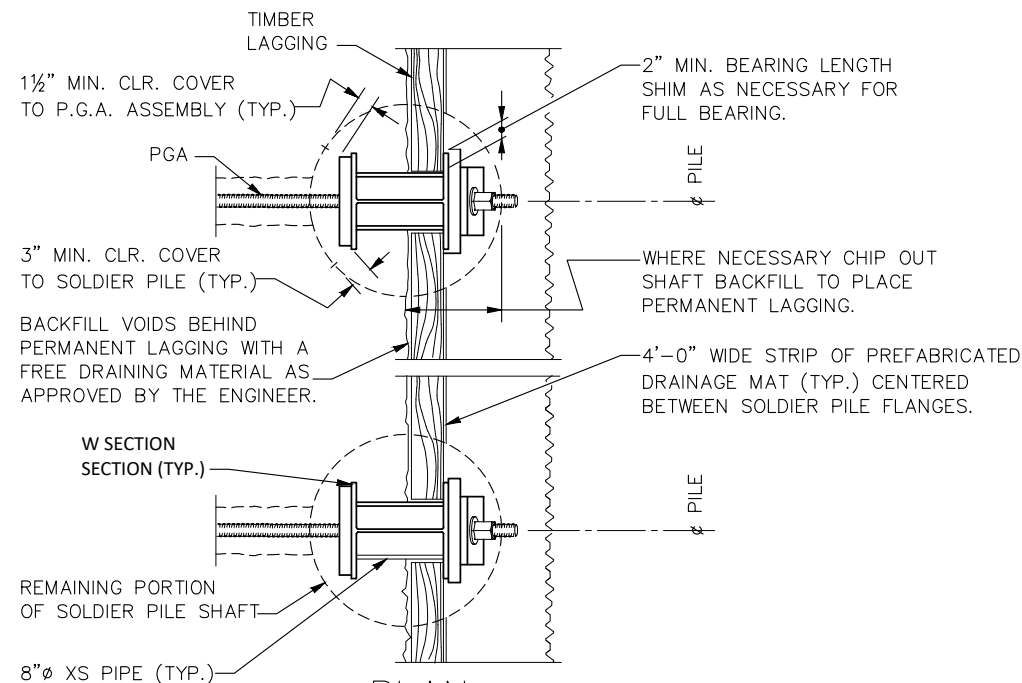
TYPICAL SECTION

SHOWN FOR SOLDIER PILE WITH P.G.A. AND TIEBACK ANCHOR SIMILAR FOR SOLDIER PILE WITHOUT P.G.A.
 P.G.A.= PERMANENT GROUND ANCHOR

NOTE: CONTRACTOR IS FULLY RESPONSIBLE FOR POTHLING AND LOCATING UTILITIES FOR THE FULL LENGTH OF THE PGAS AND TAKING MEASURES TO AVOID THESE UTILITIES AND PROVIDE THE MINIMUM CLEARANCE REQUIRED BY THE UTILITY



PLAN SOLDIER PILE WALL WITHOUT P. G. A.



PLAN SOLDIER PILE WALL WITH P. G. A.

| Description | Date | Initials | Drawn | Designed | Checked | Revisions | Revisions |
|-------------|----------|----------|-------|----------|---------|-----------|-----------|
| | 12/31/19 | DRW | DES | CHK | | | |
| | 12/31/19 | | | | | | |
| | 12/31/19 | | | | | | |

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NE 195TH STREET BALLINGER CREEK
 CULVERT REPLACEMENT
 60% REVIEW SUBMITTAL
 SOLDIER PILE DETAILS - SHEET 1 OF 4

STUART C. BENJAMIN
 STATE OF WASHINGTON
 PROFESSIONAL ENGINEER
 41778

Project No. WA16.0261.00

Sheet S-11

Sheet 33 Of 36

PRELIMINARY

