

GENERAL CIVIL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, ITS CURRENT AMENDMENTS, ATTACHED SPECIAL PROVISIONS, WSDOT STANDARD PLANS AND DETAILS, CITY OF FERDALE STANDARD DRAWINGS (REFERENCE CITY OF BELLINGHAM) AND THESE PLANS.

2. THE CONTRACTOR SHALL CLOSELY COORDINATE ALL WORK WITH THE CITY'S ROADWAY IMPROVEMENT PLANS. SPECIAL ATTENTION IS CALLED TO THE PROPOSED UNDERGROUND UTILITY INSTALLATIONS AND ABANDONMENTS WHICH SHALL BE INSTALLED PRIOR TO ANY MAIN STREET PAVING OR SUBGRADE PREPARATION WORK.

3. THE CONTRACTOR SHALL COORDINATE WITH THE PERTINENT UTILITY COMPANIES FOR THIS WORK.

4. CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISIONS OF THE MAIN STREET IMPROVEMENT PROJECT WHEN PERFORMING WORK WITHIN CITY RIGHT-OF-WAY.

ROADWAY NOTES

- (R1) DRIVEWAY & APRON PER CITY DWGS. EXTEND PAVING 2' SOUTH AND EXTEND TO OXFORD P/L. EX. ESM.T. SHOWN.
- (R2) OMIT NEW DRIVEWAY & APRON AT STA 33+85
- (R3) NEW CHANNELIZATION PER TRAFFIC DWGS. BY HERMAN TRAFFIC ENGINEERING
- (R4) OMIT NEW DRIVEWAY & APRON AT STA 35+85
- (R5) NEW INTERSECTION, SIGNAL AND CHANNELIZATION PER TRAFFIC DWGS. BY HERMAN TRAFFIC ENGINEERING
- (R6) OMIT NEW DRIVEWAY & APRON AT STA 37+68.
- (R7) EDGE OF NEW PAVING.
- (R8) NOTE OMITTED.
- (R9) PROPOSED CURB, CUTTER, SIDEWALK AND PAVING IMPROVEMENTS BY CITY. ALTER AS NOTED ON THIS PLAN AND AS APPROVED BY THE CITY.
- (R10) TYPE III TRAFFIC BARRICADE PER WSDOT STD. PLAN H-2.
- (R11) PROVIDE TEMP. GRAVEL ACCESS TO RADIATOR SHOP VIA NEW INTERSECTION. COORDINATE WITH RADIATOR SHOP.
- (R12) HANDICAP RAMP PER CITY'S ROADWAY IMPROVEMENT PLANS PROVIDE 4' WIDE PATH ON OUTER EDGE OF RAMP.
- (R13) ASPHALT PAVING TO MATCH CITY'S ROADWAY WIDENING
0.25' ACP CL B
0.35' ACP CL E
1.20' GRAVEL BASE
- (R14) RIGHT-OF-WAY DEDICATION. REFER TO BOUNDARY LINE ADJUSTMENT PLAN BY CORE DESIGN.
- (R15) OMIT NEW DRIVEWAY APRON PER CITY'S STREET IMPROVEMENT DWGS. NEW INTERSECTION PER PLAN.

SW 1/4 OF THE NE 1/4 OF SEC. 29, TWP. 30 N., RGE. 2 E., W.M., WHATCOM COUNTY

PROJECT TEAM

OWNER / DEVELOPER
NICHOLSON DEVELOPMENT PROPERTIES
2333 CARILLON POINT
KIRKLAND, WA 98033
CONTACT: DAN TAYLOR
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CIVIL ENGINEER
TERRAFORMA DESIGN GROUP, INC.
5212 37TH AVENUE SW
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PHONE: (206) 923-0590

TRAFFIC ENGINEER
HERMAN TRAFFIC ENGINEER
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SURVEYOR
CORE DESIGN
14711 NE 29TH PLACE, #101
BELLEVUE, WA 98107
CONTACT: KEVIN J. VANDERZANDEN, P.L.S.
PHONE: (425) 885-7877

PROPERTY INFO

LEGAL DESCRIPTION:
(SEE SHT. C2.1)

VERTICAL DATUM:

DATUM:
ASBUILT RIM OF SANITARY SEWER MANHOLE
AS SHOWN ON SHEET 5 OF 30, MAIN
STREET BRIDGE STREET IMPROVEMENTS AS
PREPARED BY REICHARDT & EBE
ENGINEERING, INC. FOR THE CITY OF
FERDALE.

BENCHMARK:

NORTH RIM SANITARY SEWER MANHOLE
OPPOSITE NE PROPERTY CORNER
ELEVATION 30.70

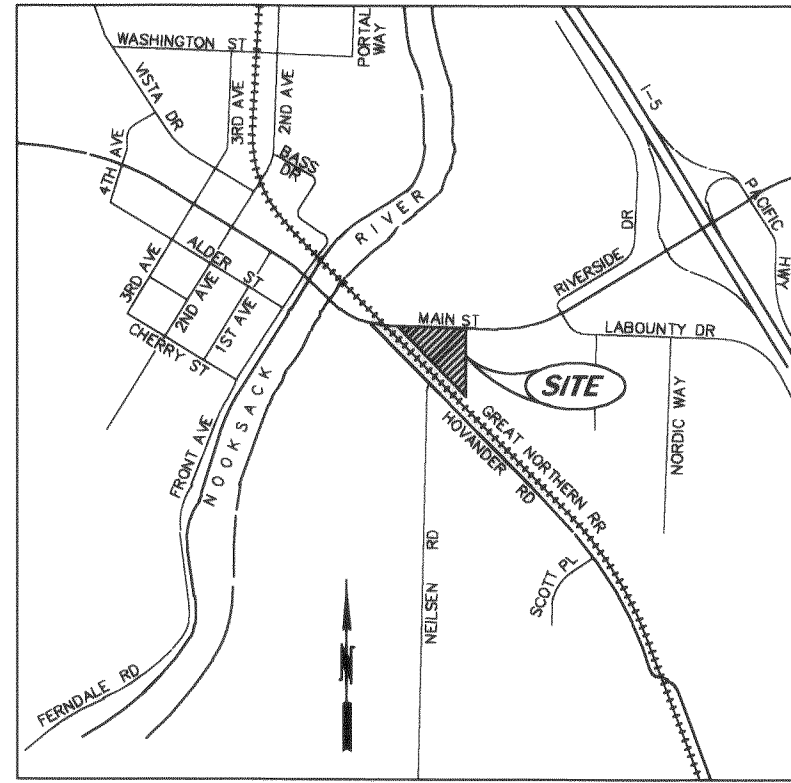
BASIS OF BEARINGS:

N00°29'40"E BETWEEN THE NORTH 1/4
CORNER AND SOUTH 1/4 CORNER OF
SECTION 29, TOWNSHIP 39 NORTH, RANGE 2
EAST, W.M. PER RECORD OF SURVEY IN
BOOK 1 OF SURVEYS, AT PAGE 19 RECORDS
OF WHATCOM COUNTY, WASHINGTON.

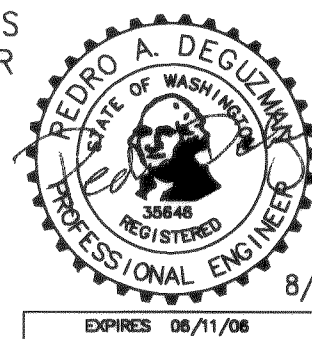
GOVERNING AGENCIES

CITY OF FERDALE
2095 MAIN STREET
P.O. BOX 936
FERDALE, WA 98248
CONTACT: BOB CECILE
PHONE: (360) 384-4006

BURLINGTON NORTHERN SANTA FE
(GREAT NORTHERN RAILROAD)
2454 OCCIDENTAL AVE. SOUTH, STE. 1A
SEATTLE, WA 98134
CONTACT: MIKE COWLES
PHONE: (206) 625-6148

VICINITY MAP
N.T.S.

Robert Rule
Professional Engineer
No. 10000
State of Washington
Expires 08/11/08



I HEREBY CERTIFY THAT THE IMPROVEMENTS IN
WALGREENS STORE #7782 HAVE BEEN INSPECTED
BY TERRAFORMA DESIGN GROUP, INC. AND
CONSTRUCTED IN CONFORMANCE WITH THE PLANS
APPROVED BY THE PUBLIC WORKS DIRECTOR FOR
SAID DEVELOPMENT AND THE GENERAL
SPECIFICATIONS ADOPTED BY THE CITY OF
FERDALE DEPARTMENT OF PUBLIC WORKS.

TERRAFORMA
DESIGN GROUP, INC.
CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE
5212 37th Avenue SW Seattle WA 98126
phone 206-923-0590 fax 206-923-3307 email info@terraformadsgroup.com

PROJECT NO.
03009
DRAWN BY:
CSM
CHECKED BY:
PAD

WALGREENS STORE # 7782
1901 MAIN STREET, FERDALE, WA
for Nicholson Development Properties

SHEET TITLE
MAIN ST.
INTERSECTION AND
DRIVEWAY DESIGN

SHEET NO.
C0.1

OF 2

ROADWAY NOTE:
MAIN STREET ROADWAY IMPROVEMENTS
DESIGNED/CONSTRUCTED BY CITY OF
FERDALE. INTERSECTION SIGNAL AND
CURB RETURNS BY DEVELOPER.

CHANNELIZATION AND SIGNALIZATION
INFRASTRUCTURE BEYOND
RIGHT-OF-WAY TO BE PROVIDED VIA
WALGREENS SHOPPING CENTER PROJECT

GENERAL CIVIL NOTES

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3. THE CONTRACTOR SHALL COORDINATE WITH THE PERTINENT UTILITY COMPANIES FOR THIS WORK.
4. CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISIONS OF THE MAIN STREET IMPROVEMENT PROJECT WHEN PERFORMING WORK WITHIN CITY RIGHT-OF-WAY.

WATER NOTES

- (W1) STA 34+55.1, 11.1' LT
12"x8" TAPPING TEE (FL)
8" GATE VALVE (FLxMJ)
CONC. BLKG.
"HOT TAP" BY CONTRACTOR
- (W2) 76 LF ~ 8" W
DIP, CL. 52
- (W3) STA 34+57.0, 65.0' RT
CAP & MARK END
IE= 25.00
- (W4) REMOVE EX. WATER METER & BOX
REMOVE EX. MAIN CONN. PER CITY STDs.
- (W5) EX. FIRE HYDRANT
- (W6) EX. FIRE HYDRANT TO BE RELOCATED
(BY CITY)
- (W7) STA 36+97.3, 9.7' LT
12"x8" TAPPING TEE (FL)
8" GATE VALVE (FLxMJ)
CONC. BLKG.
"HOT TAP" BY CONTRACTOR
- (W8) 74 LF ~ 8" W
DIP, CL. 52
- (W9) STA 36+99.1, 65.0' RT
CAP & MARK END
IE= 25.50
- (W10) STA 37+14.3, 56.4' RT
RELOCATED WATER METER AND
1.5" WATER SERVICE FOR TEMP.
USE BY MARTIN'S RADIATOR.
EX. METER SHALL MEET CURRENT
CITY STDs. OR REPLACE WITH NEW
METER PER CITY STDs.
- (W11) RELOCATE EX. WATER METER FOR
MARTIN'S RADIATOR. SEE NOTE #W10
- ** NEW WATER LINE AND APPURTENANCES SHALL BE
TESTED FOR PRESSURE AND BACTERIA PER CITY OF
FERDALE STANDARDS. THRUST BLOCKING SHALL BE
UTILIZED PER CITY OF FERDALE STANDARDS.

UTILITY (OTHER) NOTES

- (U1) MOVE PROPOSED POWER JUNCTION VAULTS
20'-FT WEST, COORD. WITH PSE
CONTRACTOR TO FIELD VERIFY THAT PROPOSED
CURB RADIUS WILL WORK
- (U2) MOVE PROPOSED STREET LIGHT
REQUIRES REINSTALLATION OF LIGHT
TO STA 34+40.4, 41.6' RT
- (U3) RELOCATE EX. POWER VAULT TO EAST
OF PROPOSED SIGNAL CABINET / JUNCTION BOX
- (U4) PROPOSED UNDERGROUND POWER, TYP.
(BY PSE)
- (U5) PROPOSED STREET LIGHT, TYP. (BY CITY)

SEWER NOTES

- (S1) EX. SSMH
RIM= 30.25
IE (24"CONC., E)= 16.30
IE (24"CONC., W)= 16.26
NEW OUTSIDE DROP
PER CITY STDs OR INSIDE DROP IF EX. SSMH
DIA >= 54"Ø, COORD. W/ CITY.
IE (8"PVC, S)= 22.00
- (S2) 52 LF ~ 8" SS
PVC, SDR 35 @ 1.0%
- (S3) STA 35+48.6, 65.0' RT
CAP & MARK END
IE= 22.52
- ** NEW SEWER LINE SHALL BE AIR TESTED PER CITY
OF FERDALE STANDARDS.

SW 1/4 OF THE NE 1/4 OF SEC. 29, TWP. 30 N., RGE. 2 E., W.M., WHATCOM COUNTY

PROJECT TEAM

OWNER / DEVELOPER
NICHOLSON DEVELOPMENT PROPERTIES
2333 CARILLON POINT
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14711 NE 29TH PLACE, #101
BELLEVUE, WA 98007
CONTACT: KEVIN J. VANDERZANDEN, P.L.S.
PHONE: (425) 865-7877

PROPERTY INFO

LEGAL DESCRIPTION:
(SEE SHT. C2.1)

VERTICAL DATUM:
DATUM:
ASBUILT RIM OF SANITARY SEWER MANHOLE
AS SHOWN ON SHEET 5 OF 30, MAIN
STREET BRIDGE STREET IMPROVEMENTS AS
PREPARED BY REICHHARDT & EBE
ENGINEERING, INC. FOR THE CITY OF
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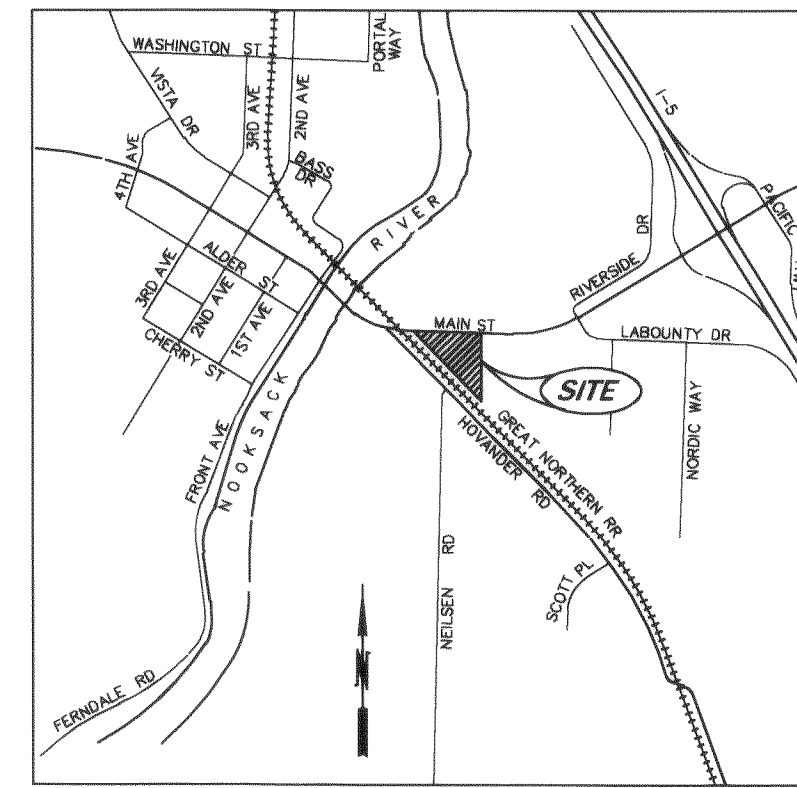
BENCHMARK:
NORTH RIM SANITARY SEWER MANHOLE
OPPOSITE NE PROPERTY CORNER
ELEVATION 30.70

BASIS OF BEARINGS:
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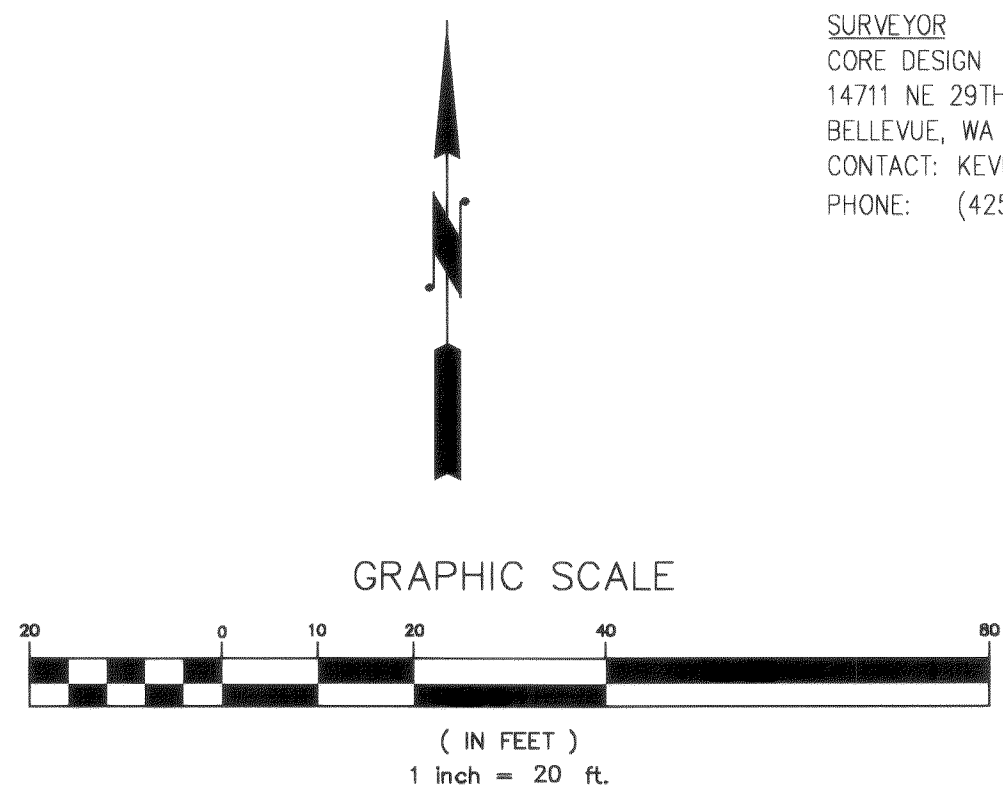
GOVERNING AGENCIES

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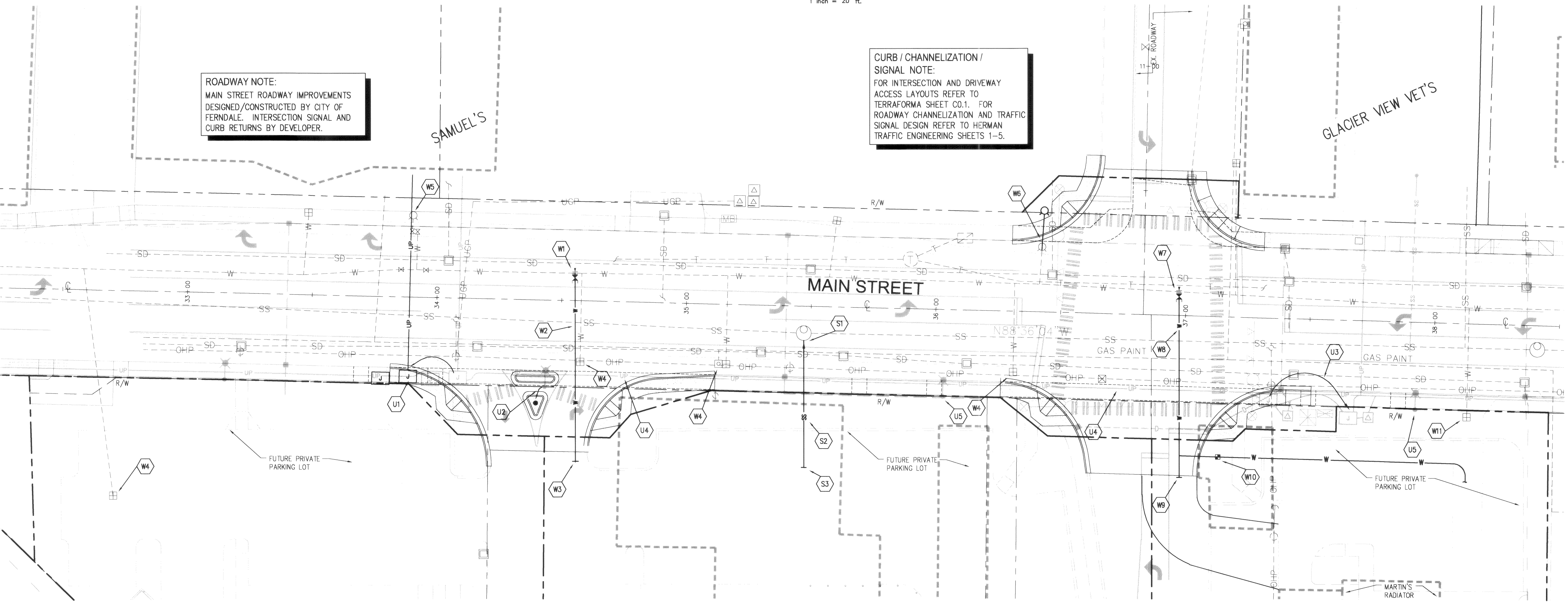


VICINITY MAP
N.T.S.



ROADWAY NOTE:
MAIN STREET ROADWAY IMPROVEMENTS
DESIGNED/CONSTRUCTED BY CITY OF
FERDALE. INTERSECTION SIGNAL AND
CURB RETURNS BY DEVELOPER.

CURB / CHANNELIZATION /
SIGNAL NOTE:
FOR INTERSECTION AND DRIVEWAY
ACCESS LAYOUTS REFER TO
TERRAFORMA SHEET C0.1. FOR
ROADWAY CHANNELIZATION AND TRAFFIC
SIGNAL DESIGN REFER TO HERMAN
TRAFFIC ENGINEERING SHEETS 1-5.



8/5/04

AS-BUILT

9 WALGREENS CORRECTIONS

8 REVISED PER VET PROPERTY

7 REVISED OXFORD ACCESS

6 SHIFTED NORTH LEG OF INTERSECTION

5 REVISED NORTH HALF OF INTERSECTION

4 REVISE PER CITY COMMENTS

3 ADD CURB LAYOUT AND STORM/GRADING DESIGN

2 REVISED INTERSECTION LOCATION

1 SUBMITTAL TO BNSF

NO

DATE

2/18/04

2/2/04

1/15/04

12/15/03

12/12/03

10/23/03

10/14/03

10/6/03

10/7/03

9/26/03

REVISION

DATE

2/18/04

EXPRES 06/11/06

PROFESSIONAL ENGINEER

STATE OF WASHINGTON

PEDRO A. DEGUZMAN

TERRAFORMA

DESIGN GROUP, INC.

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE

5212 37th Avenue SW, Seattle, WA 98126

phone 206.923.0590 fax 206.923.3507 email office@terraformdesigngroup.com

PROJECT NO.

03009

DRAWN BY:

CSM

CHECKED BY:

PAD

WALGREENS STORE # 7782

1901 MAIN STREET, FERDALE, WA

for Nicholson Development Properties

SHEET TITLE

MAIN ST.

UTILITY

CONNECTIONS

SHEET NO.

C0.2

OF 2

SW 1/4 OF THE NE 1/4 OF SEC. 29, TWP. 30 N., RGE. 2 E., W.M., WHATCOM COUNTY

ROADWAY NOTE:
MAIN STREET ROADWAY IMPROVEMENTS
DESIGNED/CONSTRUCTED BY CITY OF
FERNDALE. INTERSECTION SIGNAL AND
CURB RETURNS BY DEVELOPER.

SAMUEL'S

GLACIER VIEW VE.

MOUNT'S

MAIN STREET

NOT A CONSTRUCTION
ACCESS/EXIT

BUILDING 'A'
Walgreens
STORE #7782
FF=32.50

BUILDING 'B'
FF=32.00

BUILDING 'D'
FF=33.00

EX. BUILDING

EX. BUILDING

PHASE G1

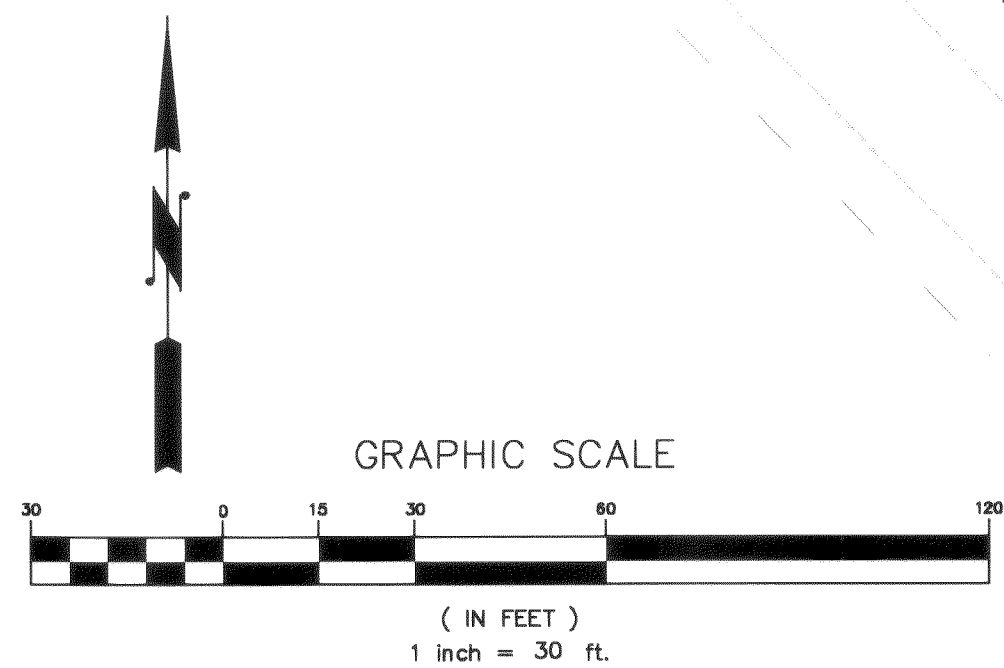
PHASE G2

BUILDING 'C'
FF=33.50

GREAT NORTHERN R. R.

LEGEND - EROSION CONTROL

EXISTING	PROPOSED	
---	---	PROPERTY LINE
---	---	R.O.W. CENTERLINE
---	---	EASEMENT
---	---	GRADING CONTOUR
---	---	SPOT ELEVATION
---	---	SWALE
---	---	FILTER FABRIC FENCE
---	---	RIPRAP ENTRANCE
---	---	ROCK CHECK DAM
---	---	CB PROTECTION
---	---	FIRE HYDRANT
---	---	WATER METER
---	---	GATE VALVE
---	---	SEWER MANHOLE
---	---	STORM CB
---	---	UTILITY POLE
---	---	STREET LIGHT



CLEARING / GRADING DATA

SITE AREA = 5.09 ac.
ON-SITE CLEARING AREA = 4.82 ac.
CUT VOLUME = 4352 cf (export)
FILL VOLUME = 13,680 cf (import)

NOTE

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IS
SHOWN IN AN APPROXIMATE MANNER ONLY.
THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF
ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY
AND ALL DAMAGES WHICH MAY BE OCCURRED BY HIS
FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL
UNDERGROUND UTILITIES.

CALL 48 HOURS
BEFORE YOU DIG
1-800-424-5555

VICINITY MAP N.T.S.

PROPERTY INFO

LEGAL DESCRIPTION:
(SEE SHT. C2.1)

VERTICAL DATUM:

DATUM:
ASBUILT RIM OF SANITARY SEWER MANHOLE
AS SHOWN ON SHEET 5 OF 30, MAIN
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OPPOSITE NE PROPERTY CORNER
ELEVATION 30.70

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WALGREENS STORE #7782
1901 MAIN STREET, FERNDAL, WA
for Nicholson Development Properties

SHEET TITLE

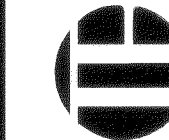
DEMO, EROSION
CONTROL & ROUGH
GRADING PLAN

SHEET NO.

C1.1

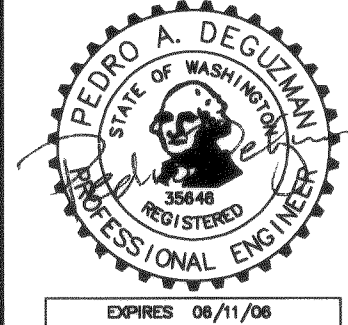
OF 2

TERRAFORMA
DESIGN GROUP, INC.



CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE
5212 37th Avenue SW Seattle WA 98176
phone 206.923.0590 fax 206.923.3557 email office@terraformadsgroup.com

PROJECT NO.
030009
DRAWN BY:
CSM
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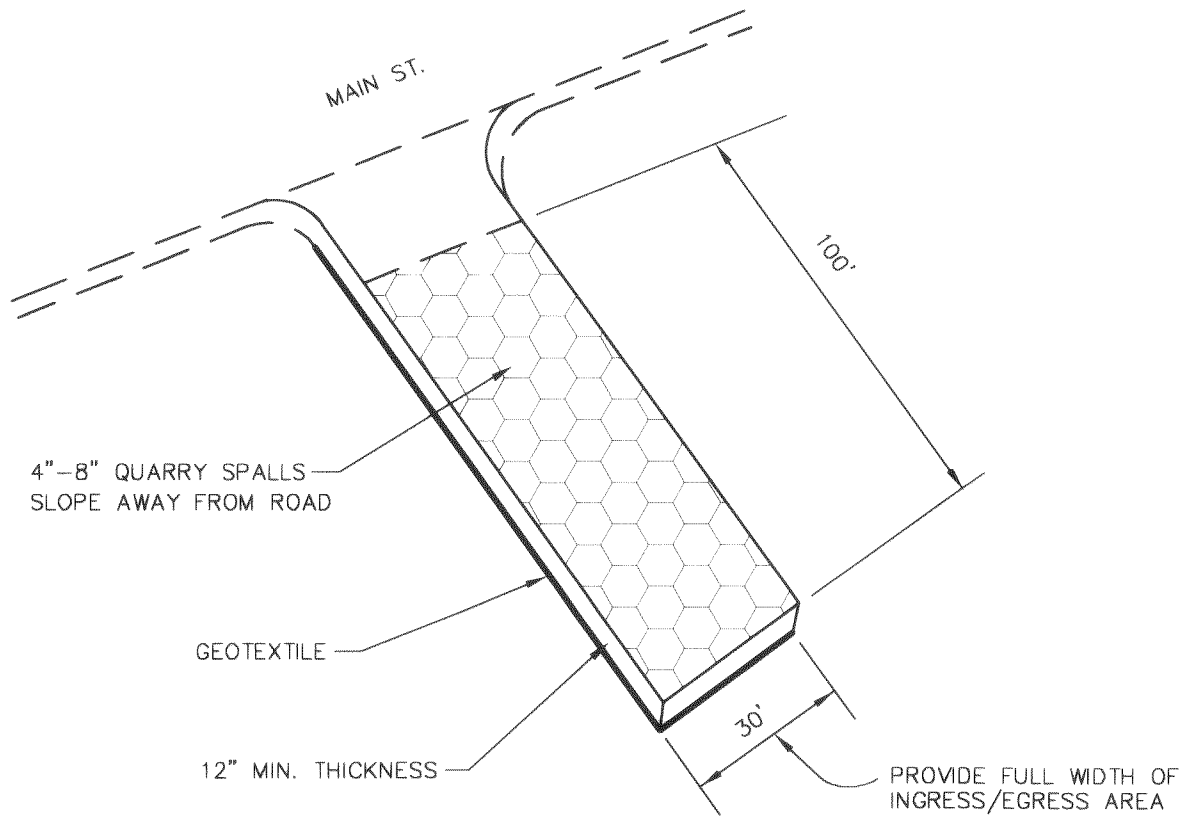


DATE	REVISION
2/18/03	3 WALGREENS CORRECTIONS
1/15/04	1 REVISED PER CITY COMMENTS
12/16/03	1 PERMIT SUBMITTAL

002SD.003 2-16-06 RB

MAINTENANCE STANDARDS

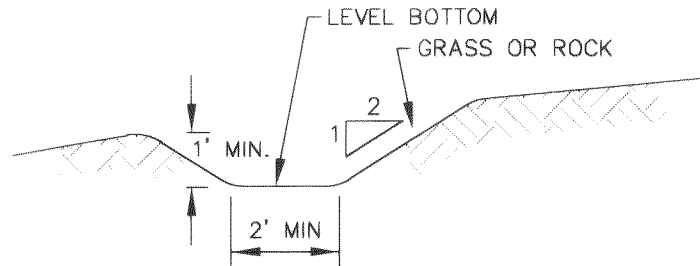
1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON-SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREET, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
4. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING SHALL BE INSTALLED TO CONTROL TRAFFIC.



1 CONSTRUCTION ENTRANCE ROCK PAD
C1.2 SCALE: N.T.S.

MAINTENANCE STANDARDS

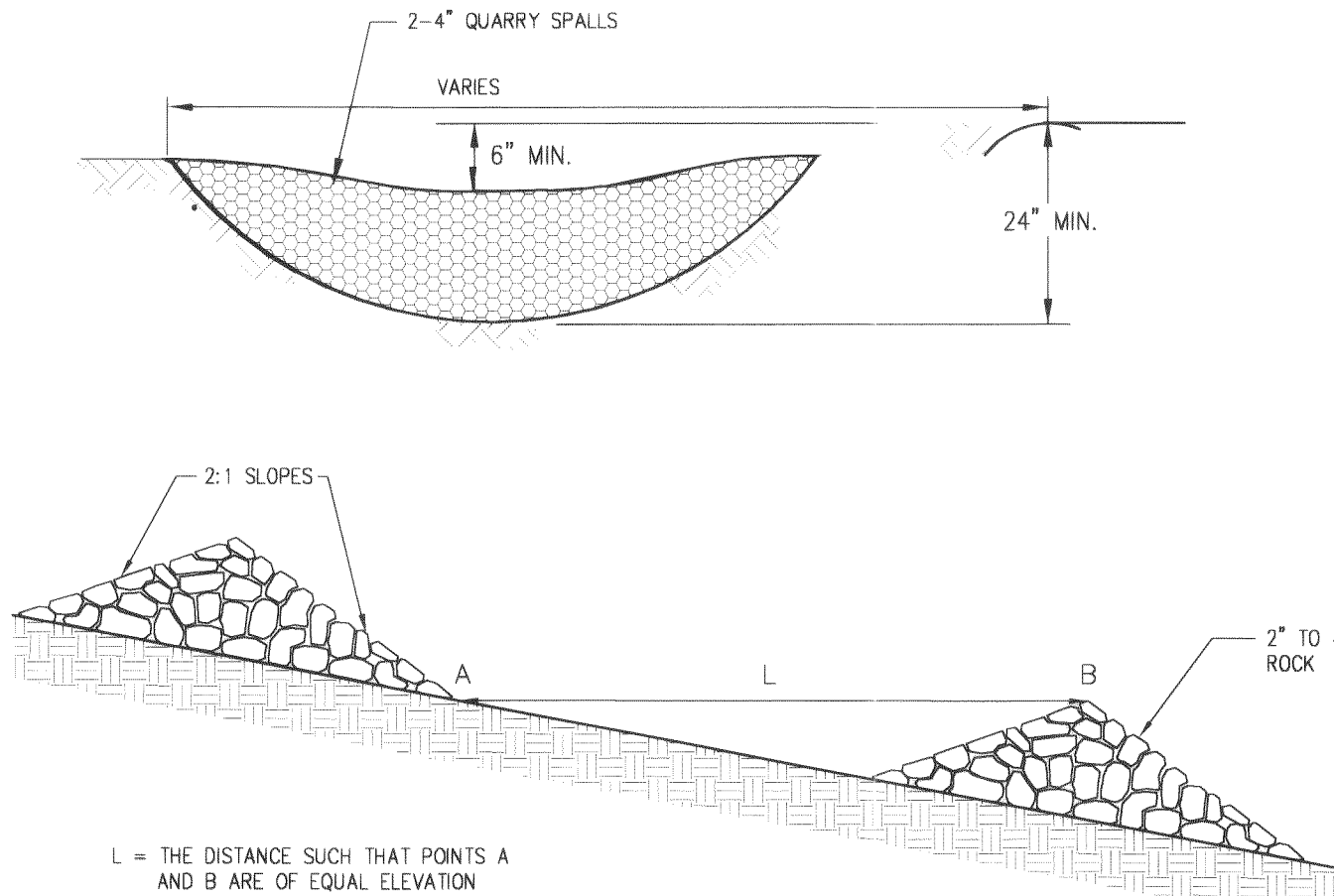
1. DAMAGE RESULTING FROM RUNOFF OR CONSTRUCTION ACTIVITY SHALL BE REPAIRED IMMEDIATELY.
2. IF THE SWALES DO NOT REGULARLY RETAIN STORM RUNOFF, THE SIZE AND/OR FREQUENCY OF THE SWALES SHALL BE INCREASED.



2 TEMPORARY SWALE
C1.2 SCALE: N.T.S.

MAINTENANCE STANDARDS

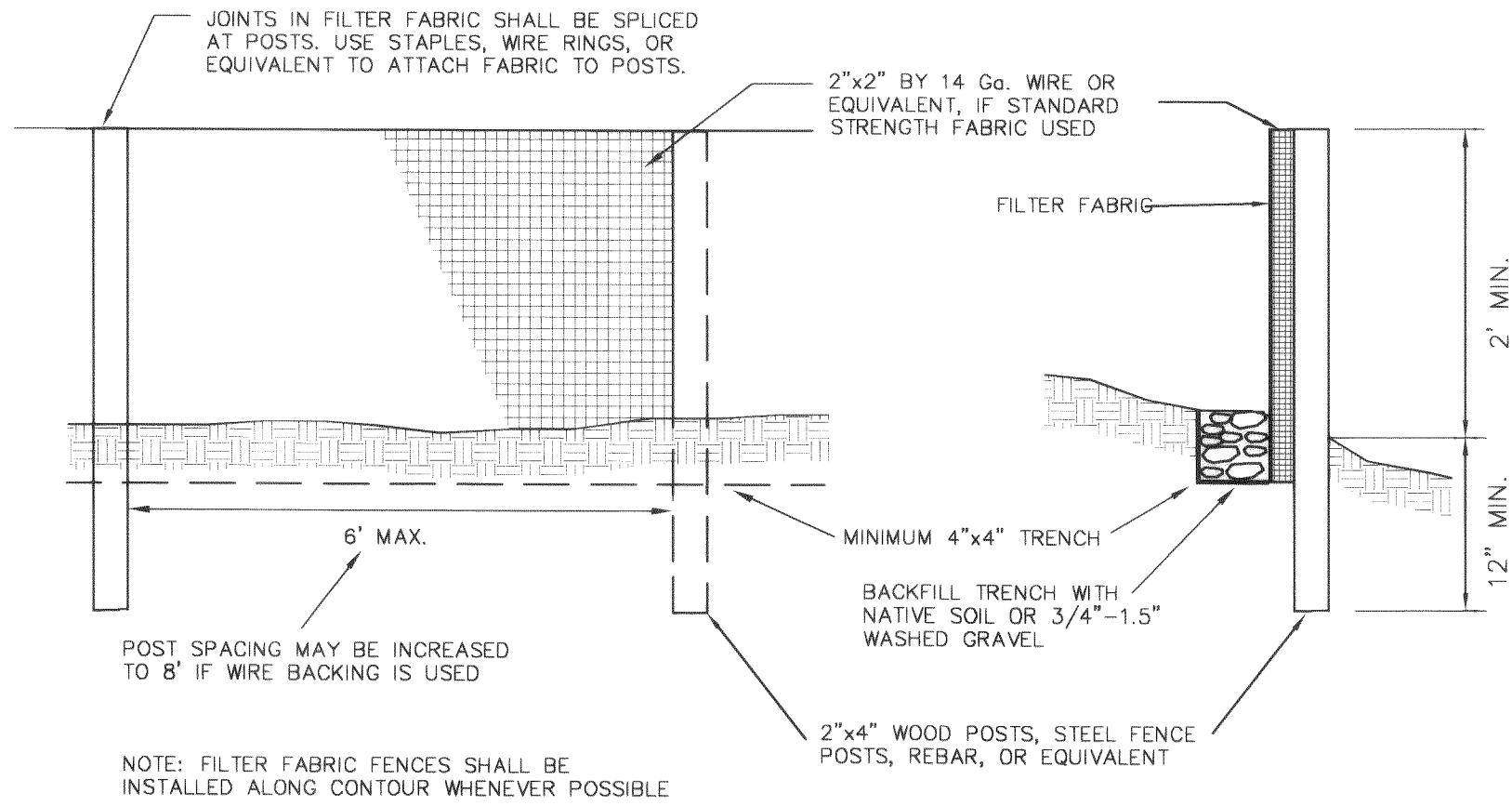
1. DAMAGE RESULTING FROM RUNOFF OR CONSTRUCTION ACTIVITY SHALL BE REPAIRED IMMEDIATELY.
2. ANY SEDIMENT DEPOSITION OF MORE THAN 0.5' SHALL BE REMOVED SO THAT THE CHANNEL IS RESTORED TO ITS DESIGN CLARITY.



3 ROCK CHECK DAM
C1.2 SCALE: N.T.S.

MAINTENANCE STANDARDS

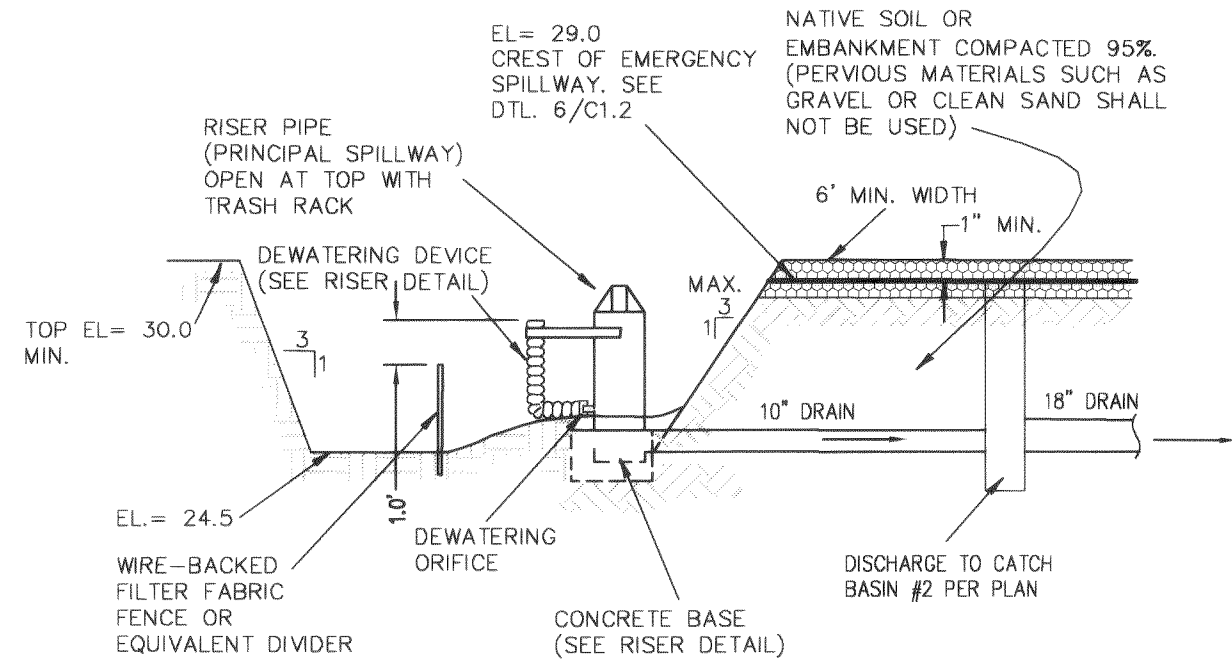
1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6" HIGH.
5. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.



4 FILTER FABRIC FENCE
C1.2 SCALE: N.T.S.

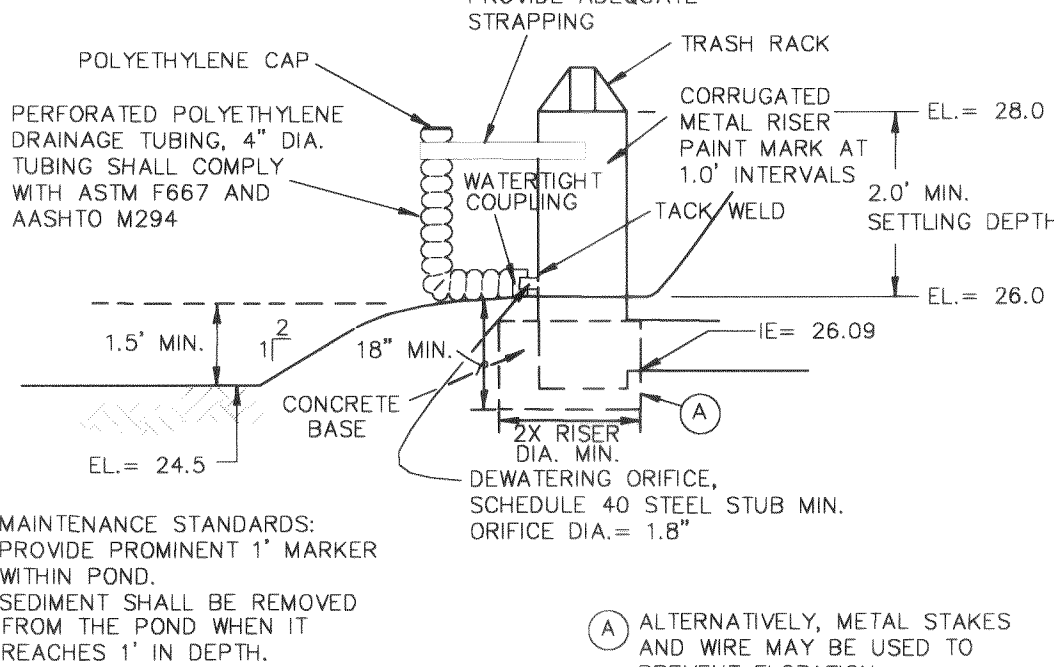
MAINTENANCE STANDARDS

1. SEDIMENT SHALL BE REMOVED FROM THE POND WHEN IT REACHES 1 FOOT IN DEPTH.
2. ANY DAMAGE DONE TO THE POND EMBANKMENTS OR SLOPES SHALL BE REPAIRED.



SEDIMENT POND SECTION
N.T.S.

5 SEDIMENT POND
C1.2 SCALE: N.T.S.

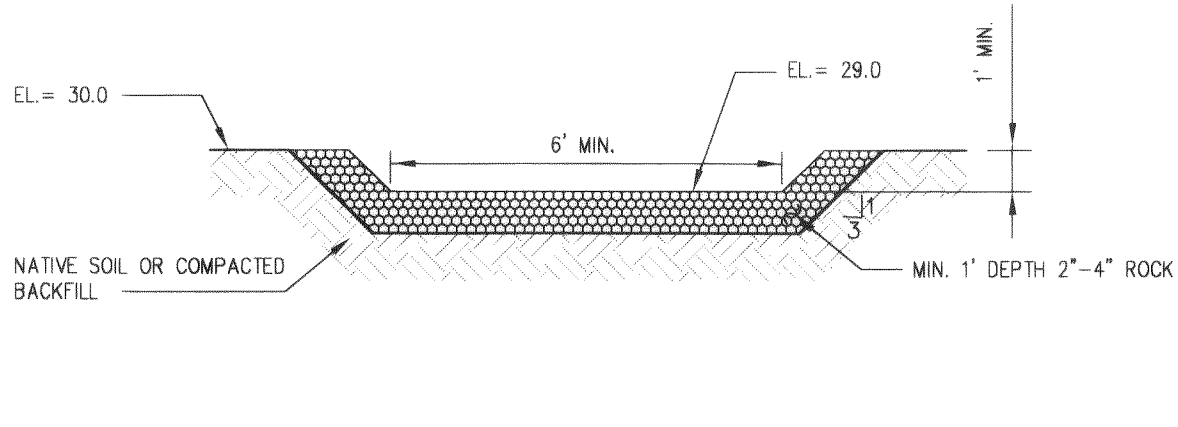


RISER DETAIL
N.T.S.

- MAINTENANCE STANDARDS:
1. PROVIDE PROMINENT 1" MARKER WITHIN POND.
 2. SEDIMENT SHALL BE REMOVED FROM THE POND WHEN IT REACHES 1" IN DEPTH.
 3. ANY DAMAGE TO THE POND EMBANKMENTS OR SLOPES SHALL BE REPAIRED.

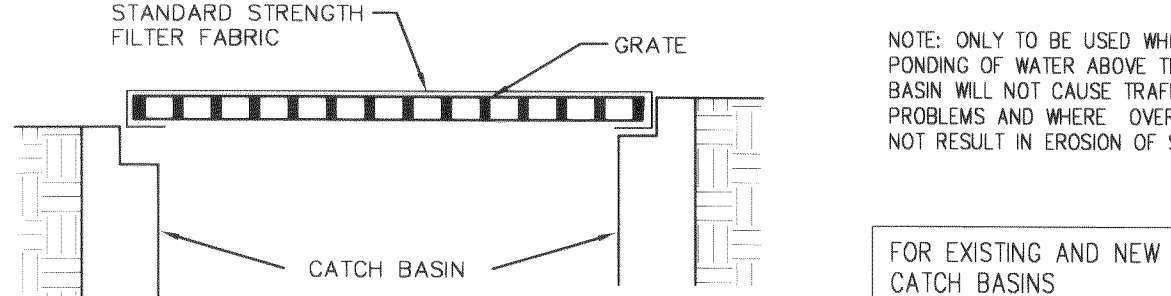
(A) ALTERNATIVELY, METAL STAKES AND WIRE MAY BE USED TO PREVENT FLOTATION

6 EMERGENCY OVERFLOW SPILLWAY
C1.2 SCALE: N.T.S.



MAINTENANCE STANDARDS

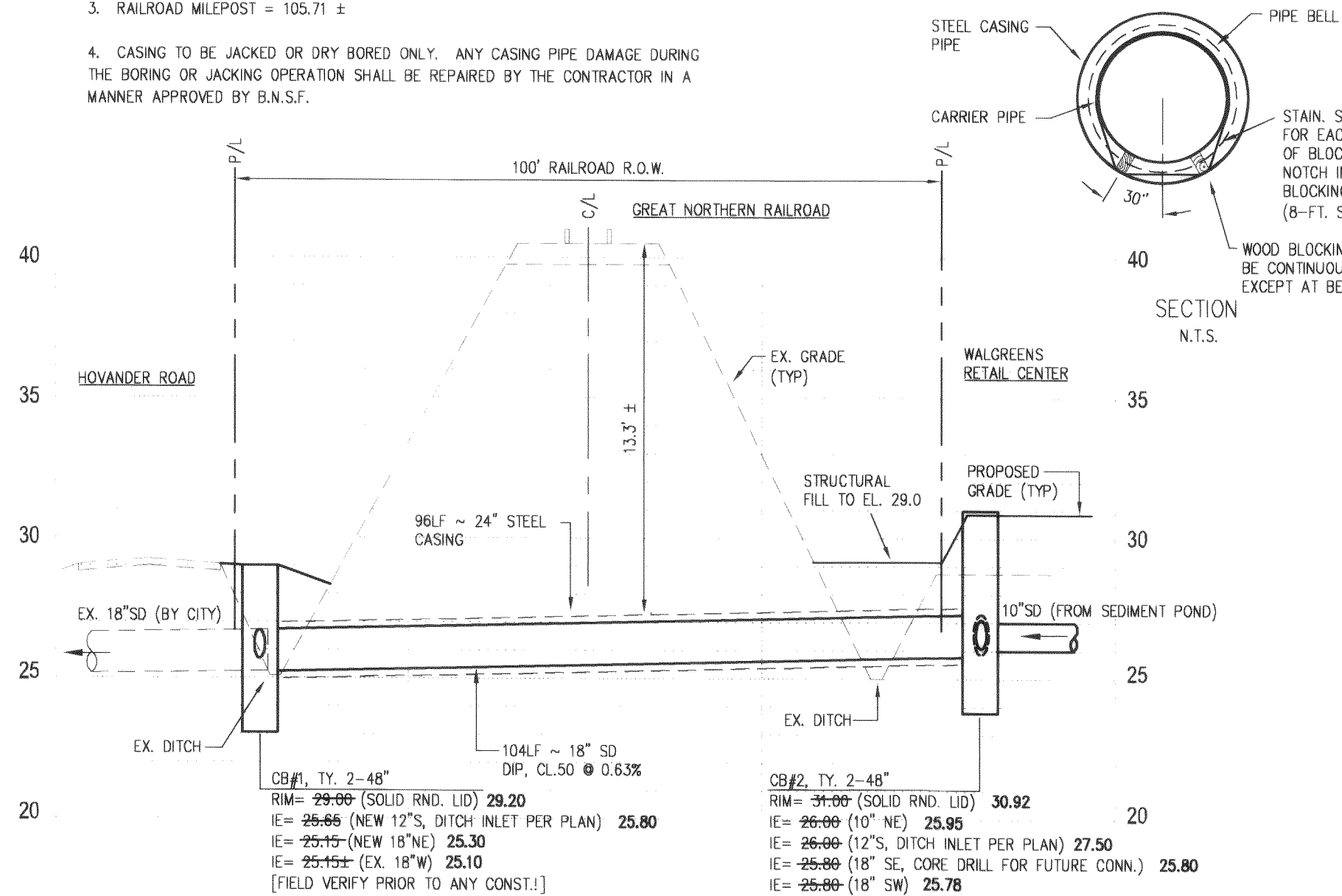
1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC PROTECTION SHALL BE REMOVED IMMEDIATELY. SEDIMENT SHALL NOT BE REMOVED WITH WATER, AND ALL SEDIMENT MUST BE DISPOSED OF AS FILL ON-SITE OR HAULED OFF-SITE.
2. REGULAR MAINTENANCE IS CRITICAL. UNLIKE MANY FORMS OF PROTECTION THAT FAIL GRADUALLY, CATCH BASIN PROTECTION WILL FAIL SUDDENLY AND COMPLETELY IF NOT MAINTAINED PROPERLY.



7 TEMP. CATCH BASIN PROTECTION
C1.2 SCALE: N.T.S.

RAILROAD CROSSING NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONDITIONS OF THE "PIPELINE LICENSE" AGREEMENT BETWEEN THE DEVELOPER AND BURLINGTON NORTH SANTA FE RAILROAD COMPANY.
2. CONTRACTOR SHALL NOTIFY B.N.S.F. ROADMASTER AT 1200 'O' STREET, BELLINGHAM, WA, 98225, TELE: (360) 922-1401, AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO INSTALLATION OF THE CASING AND PRIOR TO ENTERING B.N.S.F. PROPERTY FOR SUBSEQUENT MAINTENANCE.
3. RAILROAD MILEPOST = 105.71 ±
4. CASING TO BE JACKED OR DRY BORED ONLY. ANY CASING PIPE DAMAGE DURING THE BORING OR JACKING OPERATION SHALL BE REPAIRED BY THE CONTRACTOR IN A MANNER APPROVED BY B.N.S.F.
5. STEEL CASING SHALL BE 24-INCH DIAMETER BLACK STEEL PIPE GR-B (WALL THICKNESS = 0.375 INCHES) CONFORMING TO ASTM A53. THE JOINTS BETWEEN THE SECTIONS SHALL BE BUTT WELDED TO PRODUCE A CONTINUOUS BEAD AROUND THE FULL CIRCUMFERENCE OF THE CASING TO PRODUCE A RIGID, WATER-TIGHT ENCASMENT.
6. ANNUAL SPACE BETWEEN THE CASING AND CARRIER PIPE WILL NOT BE FILLED EXCEPT FOR A CONCRETE AT THE CASING ENDS.



8 PROFILE - STORM / RAILROAD CROSSING
C1.2 SCALE: 1" = 20' HORIZ., 1" = 5' VERT.

GENERAL CIVIL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, ITS CURRENT AMENDMENTS, ATTACHED SPECIAL PROVISIONS, WSDOT STANDARD PLANS AND DETAILS, CITY OF FERNDALE STANDARD DRAWINGS (REFERENCE CITY OF BELLINGHAM) AND THESE PLANS.
2. THE CONTRACTOR SHALL CLOSELY COORDINATE ALL WORK WITH THE CITY'S ROADWAY IMPROVEMENT PLANS. SPECIAL ATTENTION IS CALLED TO THE PROPOSED UNDERGROUND UTILITY INSTALLATIONS AND ABANDONMENTS WHICH SHALL BE INSTALLED PRIOR TO ANY MAIN STREET PAVING OR SUBGRADE PREPARATION WORK.
3. THE CONTRACTOR SHALL COORDINATE WITH THE PERTINENT UTILITY COMPANIES FOR THIS WORK.
4. CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISIONS OF THE MAIN STREET IMPROVEMENT PROJECT WHEN PERFORMING WORK WITHIN CITY RIGHT-OF-WAY.

EROSION CONTROL NOTES

ALL EROSION CONTROL BMP'S CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THE CITY OF FERNDALE STANDARD DETAILS AND THESE PLANS.

THE FOLLOWING EROSION AND SEDIMENT CONTROL REQUIREMENTS SHALL BE MET:

1. STABILIZATION AND SEDIMENT TRAPPING. ALL EXPOSED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF BMP'S. FROM OCTOBER 1 TO APRIL 30, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN 7 DAYS. PRIOR TO LEAVING THE SITE, STORMWATER RUNOFF SHALL PASS THROUGH A SEDIMENT POND OR SEDIMENT TRAP, OR OTHER APPROPRIATE BMP'S.
2. DELINEATE CLEARING AND EASEMENT LIMITS. IN THE FIELD, STAKE AND FLAG CLEARING LIMITS AND/OR ANY EASEMENTS, SETBACKS, SENSITIVE CRITICAL AREAS AND THEIR BUFFERS, TREES AND DRAINAGE COURSES.
3. PROTECTION OF ADJACENT PROPERTIES. PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION.

4. TIMING AND STABILIZATION OF SEDIMENT TRAPPING MEASURES. SEDIMENT PONDS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER BMP'S INTENDED TO TRAP SEDIMENT ON-SITE SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL BEFORE LAND DISTURBING ACTIVITIES TAKE PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS SHALL BE SEEDED AND MULCHED ACCORDING TO THE TIMING INDICATED IN SEC. 1106(1).

5. CUT AND FILL SLOPES. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. IN ADDITION, SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH SEC. 1106(1).

6. CONTROLLING OFF-SITE EROSION. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.

7. STABILIZATION OF TEMPORARY CONVEYANCE CHANNELS AND OUTLETS. ALL TEMPORARY ON-SITE CONVEYANCE CHANNELS SHALL BE DESIGNED, CONSTRUCTED AND STABILIZED TO PREVENT EROSION FROM THE EXPECTED VELOCITY OF FLOW FROM A 2-YEAR, 24-HOUR FREQUENCY STORM FOR THE DEVELOPED CONDITION. STABILIZATION ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAMBANKS, SLOPES AND DOWNSTREAM REACHES SHALL BE PROVIDED AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.

8. STORM DRAIN INLET PROTECTION. ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

9. UNDERGROUND UTILITY CONSTRUCTION. THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:

- A) WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.
- B) WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- C) TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.

10. CONSTRUCTION ACCESS ROUTES. WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) ONTO THE PAVED ROAD. IF SEDIMENT IS TRANSPORTED ONTO A ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

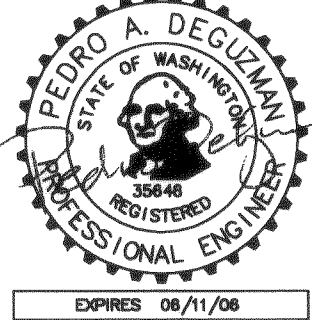
11. REMOVAL OF TEMPORARY BMP'S. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

12. DEWATERING CONSTRUCTION SITES. DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.

13. CONTROL OF POLLUTANTS OTHER THAN SEDIMENT ON CONSTRUCTION SITES. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.

14. MAINTENANCE. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH AN APPROVED MANUAL.

15. FINANCIAL LIABILITY. PERFORMANCE BONDING, OR OTHER APPROPRIATE FINANCIAL INSTRUMENTS, SHALL BE REQUIRED FOR ALL PROJECTS TO ENSURE COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.



NO.	DATE	REVISION
3	2/18/03	WALGREENS CORRECTIONS
1	1/15/04	RENEW PER CITY COMMENTS
1	12/16/03	PERMIT SUBMITAL
NO	NO	NO

TERRAFORMA
DESIGN GROUP, INC.



PROJECT NO.
03009
DRAWN BY:
CSM
CHECKED BY:
PAD

WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE

CIVIL DETAILS

SHEET NO.

C1.2

OF 2

PROPERTY INFO

LEGAL DESCRIPTION:

* NOTE: UPON COMPLETION OF THE BOUNDARY LINE ADJUSTMENT, LOT DESCRIPTIONS WILL BE REVISED TO INCORPORATE THE RIGHT-OF-WAY DEDICATION AT THE ACCESSSES.

NEW LOT 1:

THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER ALL IN SECTION 29, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M., IN THE CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE S00°29'40"W ALONG THE EAST LINE OF SAID SUBDIVISION, 30.00 FEET TO THE SOUTH RIGHT-OF-WAY MARGIN OF MAIN STREET AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE N88°36'04"W ALONG SAID SOUTH MARGIN, 163.98 FEET TO THE NORTH END OF A PROPERTY LINE ESTABLISHED BY BOUNDARY LINE AGREEMENT UNDER RECORDING NO. 1385978, RECORDS OF SAID COUNTY; THENCE S01°30'18"E ALONG SAID PROPERTY LINE, 75.15 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY MARGIN OF GREAT NORTHERN RAILROAD; THENCE S45°19'11"E ALONG SAID NORTHEASTERLY MARGIN, 284.55 FEET; THENCE N00°29'40"E 270.17 FEET TO THE SOUTH MARGIN FOR SAID MAIN STREET; THENCE N88°36'04"W ALONG SAID SOUTH MARGIN 42.71 FEET TO THE POINT OF BEGINNING.

CONTAINS 35,319± SQUARE FEET (0.8108± ACRES).

NEW LOT 2:

THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER SECTION 29, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M., IN THE CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE S00°29'40"W ALONG THE WEST LINE OF SAID SUBDIVISION, 30.00 FEET TO THE SOUTH RIGHT-OF-WAY MARGIN OF MAIN STREET; THENCE S88°36'04"E ALONG SAID SOUTH MARGIN, 42.71 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE CONTINUING S88°36'04"E ALONG SAID SOUTH MARGIN, 243.42 FEET; THENCE S00°00'00"E 283.18 FEET; THENCE N90°00'00"W 226.50 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY MARGIN OF GREAT NORTHERN RAILROAD; THENCE N45°19'11"W ALONG SAID NORTHEASTERLY MARGIN, 26.98 FEET; THENCE N00°29'40"E 270.17 FEET TO THE POINT OF BEGINNING.

CONTAINS 69,813± SQUARE FEET (1.6027± ACRES).

NEW LOT 3:

THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER SECTION 29, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M., IN THE CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE S00°29'40"W ALONG THE WEST LINE OF SAID SUBDIVISION, 30.00 FEET TO THE SOUTH RIGHT-OF-WAY MARGIN OF MAIN STREET; THENCE S88°36'04"E ALONG SAID SOUTH MARGIN, 286.13 FEET; THENCE S00°00'00"E 283.18 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE N90°00'00"W 226.50 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY MARGIN OF GREAT NORTHERN RAILROAD; THENCE S45°19'11"E ALONG SAID NORTHEASTERLY MARGIN, 534.33 FEET TO THE EAST LINE OF THE WEST 445.21 FEET OF SAID SUBDIVISION; THENCE N00°29'40"E ALONG SAID EAST LINE, 336.73 FEET; THENCE N90°00'00"W 156.33 FEET; THENCE N00°00'00"W 39.00 FEET TO THE POINT OF BEGINNING.

CONTAINS 65,878± SQUARE FEET (1.5124± ACRES).

NEW LOT 4:

THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER SECTION 29, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M., IN THE CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE S00°29'40"W ALONG THE WEST LINE OF SAID SUBDIVISION, 30.00 FEET TO THE SOUTH RIGHT-OF-WAY MARGIN OF MAIN STREET; THENCE S88°36'04"E ALONG SAID SOUTH MARGIN, 286.13 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE S00°00'00"E 322.18 FEET; THENCE N90°00'00"E 156.33 FEET TO THE EAST LINE OF THE WEST 445.21 FEET OF SAID SUBDIVISION; THENCE N00°29'40"E ALONG SAID EAST LINE, 318.31 FEET TO THE SOUTH MARGIN OF SAID MAIN STREET; THENCE N88°36'04"W ALONG SAID SOUTH MARGIN 159.13 FEET TO THE POINT OF BEGINNING.

CONTAINS 50,506± SQUARE FEET (1.1595± ACRES).

VERTICAL DATUM:

DATUM:

ASBUILT RIM OF SANITARY SEWER MANHOLE AS SHOWN ON SHEET 5 OF 30, MAIN STREET BRIDGE STREET IMPROVEMENTS AS PREPARED BY REICHARDT & EBE ENGINEERING, INC. FOR THE CITY OF FERNDALE.

BENCHMARK:

NORTH RIM SANITARY SEWER MANHOLE OPPOSITE NE PROPERTY CORNER
ELEVATION 30.70

BASIS OF BEARINGS:

N00°29'40"E BETWEEN THE NORTH 1/4 CORNER AND SOUTH 1/4 CORNER OF SECTION 29, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M. PER RECORD OF SURVEY IN BOOK 1 OF SURVEYS, AT PAGE 19 RECORDS OF WHATCOM COUNTY, WASHINGTON.

LEGEND – PAVING PLAN

EXISTING

PROPOSED



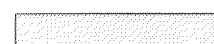
A.C. PAVING – WALGREENS – TRUCK TRAFFIC (SEE DTL. 13/A0.3)



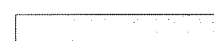
A.C. PAVING – WALGREENS CAR TRAFFIC (SEE DTL. 13/A0.3)



A.C. PAVING – RETAIL – TRUCK TRAFFIC (SEE DTL. 13/A0.3)



A.C. PAVING – RETAIL – CAR TRAFFIC (SEE DTL. 13/A0.3)



CONCRETE



LOADING ZONE STRIPING



CONCRETE CURB



CONCRETE CURB WITH GUTTER



CONC. OR BLOCK WALL



PROPERTY LINE



ROADWAY CENTERLINE

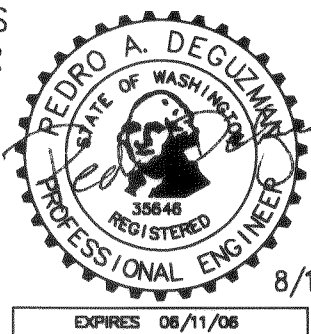
GRAPHIC SCALE



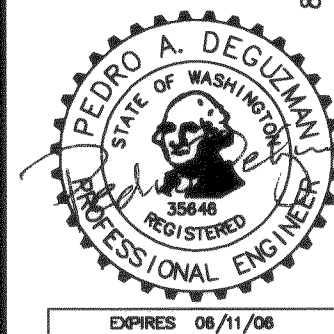
(IN FEET)
1 inch = 40 ft.

SW 1/4 OF THE NE 1/4 OF SEC. 29, TWP. 30 N., RGE. 2 E., W.M., WHATCOM COUNTY

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN WALGREENS STORE #7782 HAVE BEEN INSPECTED BY TERRAFORMA DESIGN GROUP, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.



8/17/04



8/17/04

	8/17/04	8/3/04	5/5/04	4/27/04	4/14/04	2/18/04	12/16/03	DATE
8	ADD NOTES BY CITY, REVISED WATER EASEMENT							
7	AS-BUILT							
6	REVISED WATER SERVICES							
5	REVISED FIRE SERVICE TO BLDG. 'D'							
4	ENGINEERING REVISIONS							
3	WALGREENS CORRECTIONS							
2	REVISED CITY COMMENTS							
1	PERMIT SUBMITTAL							
NO								

TERRAFORMA
DESIGN GROUP, INC.



PROJECT NO.
03009
DRAWN BY:
CSM
CHECKED BY:
PAD

WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE
PAVING PLAN

SHEET NO.
C2.1

GOVERNING AGENCIES

CITY OF FERNDALE
2095 MAIN STREET
P.O. BOX 936
FERNDALE, WA 98248
CONTACT: BOB CECILE
PHONE: (360) 384-4006

BURLINGTON NORTHERN SANTA FE
(GREAT NORTHERN RAILROAD)
2454 OCCIDENTAL AVE. SOUTH, STE. 1A
SEATTLE, WA 98134
CONTACT: MIKE COWLES
PHONE: (206) 625-6148

PROJECT TEAM

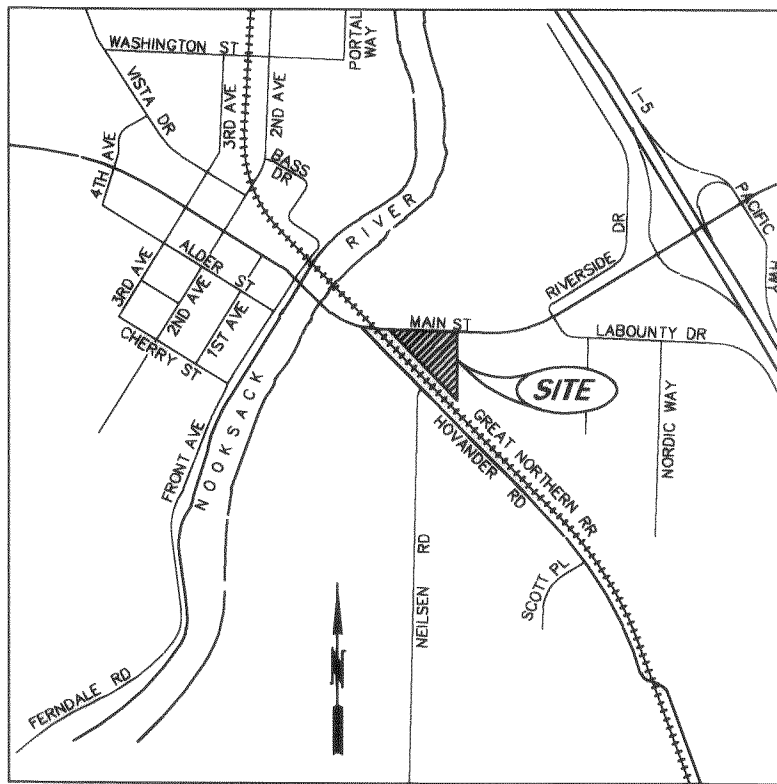
OWNER / DEVELOPER
NICHOLSON DEVELOPMENT PROPERTIES
2333 CARILLON POINT
KIRKLAND, WA 98033
CONTACT: DAN TAYLOR
PHONE: (425) 827-7499

ARCHITECT
MULVANNY/G2 ARCHITECTURE
1110 112TH AVENUE NE #500
BELLEVUE, WA 98004
CONTACT: CLARENCE KWAN
PHONE: (425) 463-2000

CIVIL ENGINEER
TERRAFORMA DESIGN GROUP, INC.
5212 37TH AVENUE SW
SEATTLE, WA 98126
CONTACT: PEDRO DEGUZMAN, PE
PHONE: (206) 923-0590

TRAFFIC ENGINEER
HERMAN TRAFFIC ENGINEER
15324 SE 133RD COURT
RENTON, WA 98059
CONTACT: BOB HERMAN, PE
PHONE: (425) 277-1740

SURVEYOR
CORE DESIGN
14711 NE 29TH PLACE, #101
BELLEVUE, WA 98007
CONTACT: KEVIN J. VANDERZANDEN, P.L.S.
PHONE: (425) 885-7877



VICINITY MAP
N.T.S.

SHEET INDEX

PAVING PLAN	C2.1
GRADING & DRAINAGE PLAN	C2.2
UTILITY PLAN	C2.3
CIVIL DETAILS	C2.4
CIVIL NOTES	C3.1
CIVIL DETAILS	C3.2
CIVIL DETAILS	C3.3

* MAIN STREET IMPROVEMENT MODIFICATIONS PER TDG SHEETS C0.1-C0.2. (SEPARATE PERMIT)

** DEMOLITION, EROSION CONTROL AND ROUGH GRADING PLAN PER TDG SHEETS C1.1-C1.2.

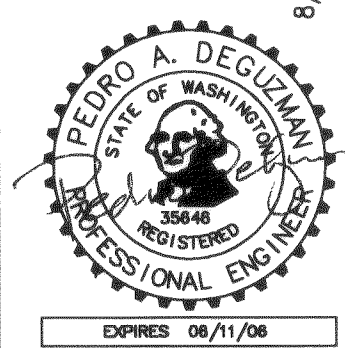
NOTE

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

**CALL 48 HOURS
BEFORE YOU DIG
1-800-424-5555**

00-250.00\$ 2-16-00 \$4

SW 1/4 OF THE NE 1/4 OF SEC. 29, TWP. 30 N., RGE. 2 E., W.M., WHATCOM COUNTY



8/17/04	ADD NOTES BY CITY, REVISED WATER EASEMENT	NO
8/17/04	AS-BUILT	
5/2/04	REVISED WATER SERVICES	
4/17/04	REVISIONS TO BLDG. 'D'	
4/17/04	REVISIONS TO BLDG. 'D'	
2/18/04	WALGREENS CORRECTIONS	
1/15/04	PERMIT SUBMITTAL	
12/16/03	REVISION	

TERRAFORMA
DESIGN GROUP, INC.

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE

5212 37th Avenue SW Seattle WA 98126
phone 206.923.0590 fax 206.923.3507 email office@terraformdesigngroup.com

PROJECT NO.
03009

DRAWN BY:
CSM

CHECKED BY:
PAD

WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE
GRADING & DRAINAGE PLAN

SHEET NO.
C2.2

STORM PIPE SCHEDULE			
PIPE	DIA./TYPE	LENGTH (FT)	SLOPE (FT./FT.)
(A)	18" DIP, CL50 (SEE SHT. C1.1)	100	0.63%
(B)	10" PVC, A2000	54	0.50%
(C)	10" PVC, A2000	132	0.50%
(D)	8" PVC, A2000	72	0.65%
(E)	18" PVC, A2000	246	0.40%
(F)	10" PVC, A2000	90	0.50%
(G)	6" PVC, SDR35	45	1.00%
(H)	8" PVC, A2000	8	1.00%
(I)	18" PVC, A2000	232	0.30%
(J)	18" PVC, A2000	13	0.30%
(K)	8" PVC, A2000	41	1.41%
(L)	6" PVC, SDR35	50	1.00%
(M)	OMITTED	-	-
(N)	12" DIP, CL50	121	0.40%
(O)	8" DIP, CL50	8	2.50%
(P)	8" DIP, CL50	41	0.65%
(Q)	6" PVC, SDR35	50	1.00%
(R)	10" PVC, A2000	70	0.65%
(S)	OMITTED	-	-
(T)	8" PVC, A2000	106	0.65%
(U)	12" PVC, A2000	139	0.40%
(V)	10" PVC, A2000	218	0.50%
(W)	6" PVC, SDR35	44	1.00%
(X)	6" PVC, SDR35	21	4.00%
(Y)	6" PVC, SDR35	50	2.30%
(Z)	6" PVC, SDR35	65	1.00%
(AA)	6" PVC, SDR35	74	1.76%
(BB)	6" PVC, SDR35	18	1.00%
(CC)	6" PVC, SDR35	49	1.00%
(DD)	12" PVC, A2000 (SEE SHT. C1.1)	20	2.50%
(EE)	12" PVC, A2000 (SEE SHT. C1.1)	13	3.80%
(FF)	10" PVC, A2000	155	0.63%
(GG)	OMITTED	-	-
(HH)	8" DIP, CL50	16	0.50%
(II)	8" DIP, CL50	100	0.40%
(JJ)	8" DIP, CL50	129	0.40%
(KK)	8" DIP, CL50	10	10.0%

PVC, A2000 (by CorTech) SHALL HAVE 18" MIN. COVER.
PVC, SDR 35 SHALL HAVE 36" MIN. COVER.
DIP, CL50, SHALL HAVE 10" MIN. COVER.

PIPE LENGTHS REFLECT CENTER OF STRUCTURE TO CENTER OF STRUCTURE / PIPE END.

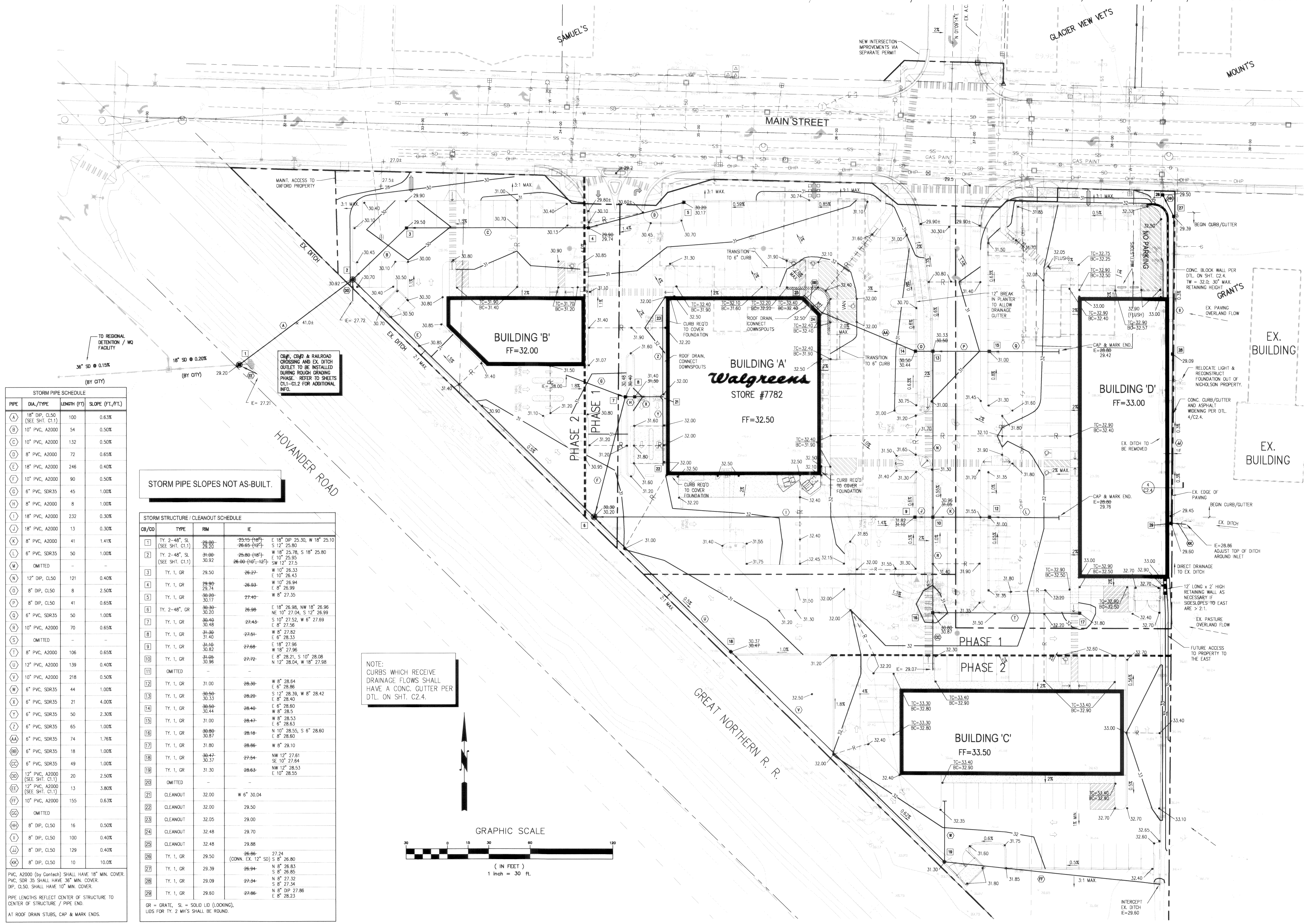
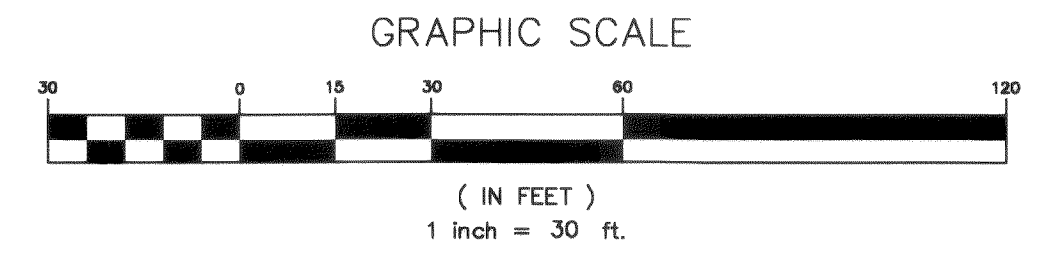
AT ROOF DRAIN STUBS, CAP & MARK ENDS.

STORM PIPE SLOPES NOT AS-BUILT.

STORM STRUCTURE / CLEANOUT SCHEDULE			
CB/CO	TYPE	RIM	IE
(1)	TY. 2-48", SL (SEE SHT. C1.1)	26.00 25.20	25.15 (16") 26.65 (12") E 18" DIP 25.30, W 18" 25.10 S 12" 25.80
(2)	TY. 2-48", SL (SEE SHT. C1.1)	31.00 30.92	25.80 (16") 26.00 (10"-12") W 18" 25.78, S 18" 25.80 E 10" 26.95 SW 12" 27.5
(3)	TY. 1, GR	29.50	26.27 W 10" 26.33 E 10" 26.43
(4)	TY. 1, GR	28.80 29.74	26.93 W 10" 26.94 E 8" 26.99
(5)	TY. 1, GR	30.20 30.17	27.40 W 8" 27.35
(6)	TY. 2-48", GR	30.30 30.20	26.98 E 18" 26.98, NW 18" 26.96 NE 10" 27.04, S 12" 26.99
(7)	TY. 1, GR	30.40 30.48	27.43 S 10" 27.52, W 6" 27.69 E 8" 27.56
(8)	TY. 1, GR	31.40 31.40	27.51 W 8" 27.62 E 6" 28.33
(9)	TY. 1, GR	31.40 30.82	27.68 E 18" 27.96 W 18" 27.96
(10)	TY. 1, GR	31.06 30.98	27.72 E 8" 28.21, S 10" 28.08 N 12" 28.04, W 18" 27.98
(11)	OMITTED	-	-
(12)	TY. 1, GR	31.00	28.30 W 8" 28.64 E 6" 28.86
(13)	TY. 1, GR	30.60 30.33	28.20 S 12" 28.39, W 8" 28.42 E 8" 28.40
(14)	TY. 1, GR	30.60 30.44	28.40 E 8" 28.60 W 8" 28.5
(15)	TY. 1, GR	31.00	28.47 W 8" 28.53 E 6" 28.63
(16)	TY. 1, GR	30.80 30.87	28.18 W 10" 28.55, S 6" 28.60 E 8" 28.60
(17)	TY. 1, GR	31.80	28.66 W 8" 29.10
(18)	TY. 1, GR	30.47 30.37	27.54 NW 12" 27.61 SE 10" 27.64
(19)	TY. 1, GR	31.30	28.63 NW 12" 28.53 E 10" 28.55
(20)	OMITTED	-	-
(21)	CLEANOUT	32.00	W 6" 30.04
(22)	CLEANOUT	32.00	29.50
(23)	CLEANOUT	32.05	29.00
(24)	CLEANOUT	32.48	29.70
(25)	CLEANOUT	32.48	29.88
(26)	TY. 1, GR	29.50	26.86 (CONN. EX. 12" SD) S 8" 26.80
(27)	TY. 1, GR	29.39	26.94 N 8" 26.83 S 8" 26.85
(28)	TY. 1, GR	29.09	27.34 N 8" 27.32 S 8" 27.34
(29)	TY. 1, GR	29.60	27.86 N 8" DIP 27.86 E 8" 28.23

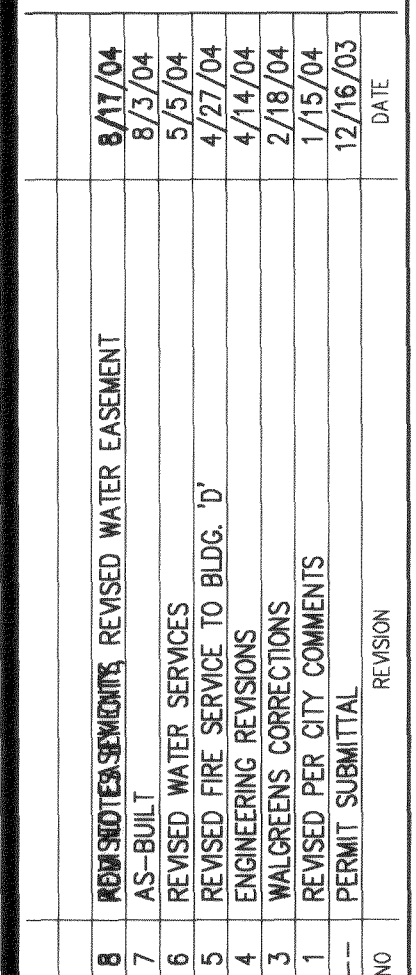
GR = GRATE, SL = SOLID LID (LOOKING),
LIDS FOR TY. 2 WH'S SHALL BE ROUND.

NOTE:
CURBS WHICH RECEIVE
DRAINAGE FLOWS SHALL
HAVE A CONC. GUTTER PER
DTL. ON SHT. C2.4.



8/17/04

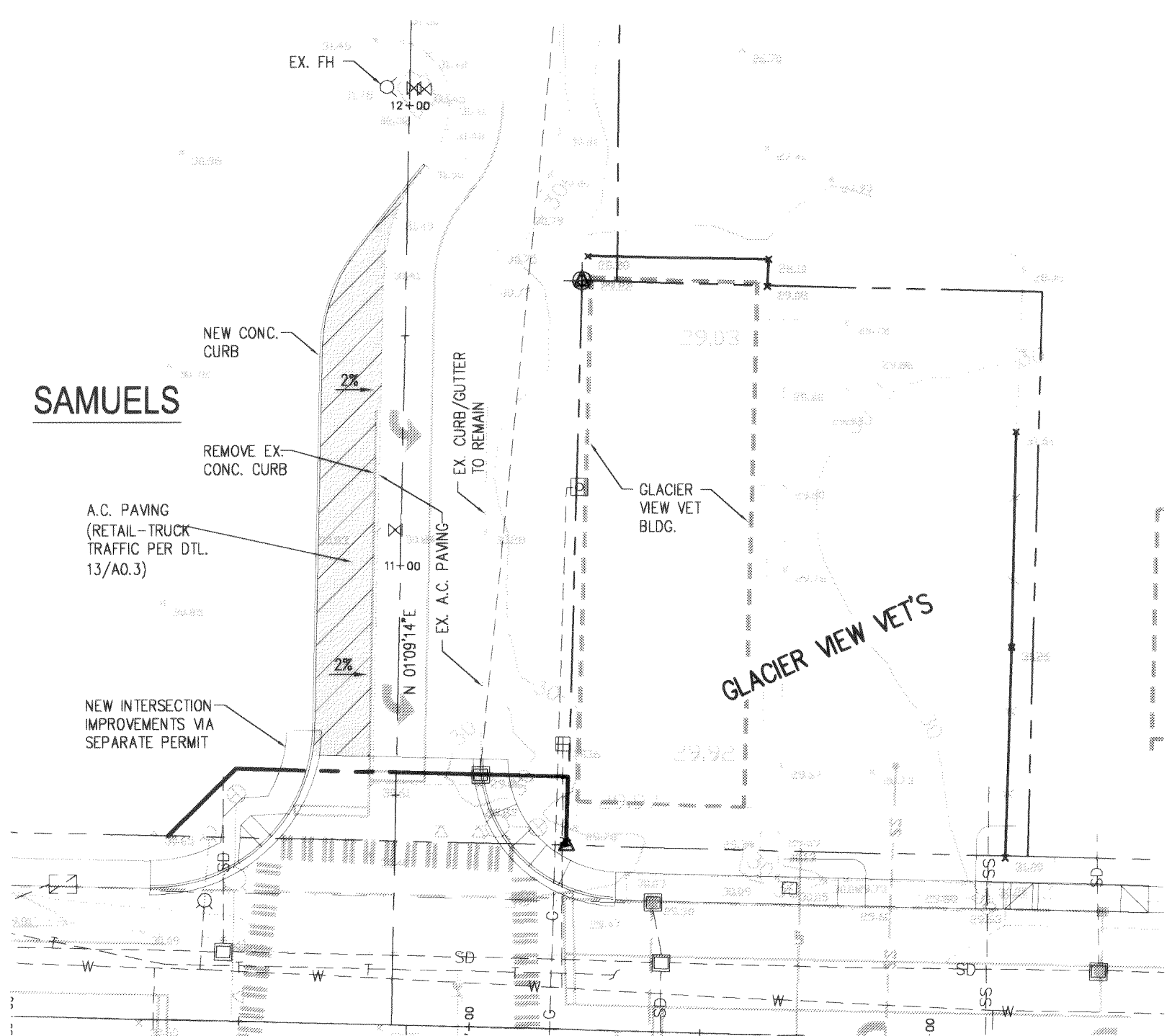
EXPIRES 08/11/06



WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

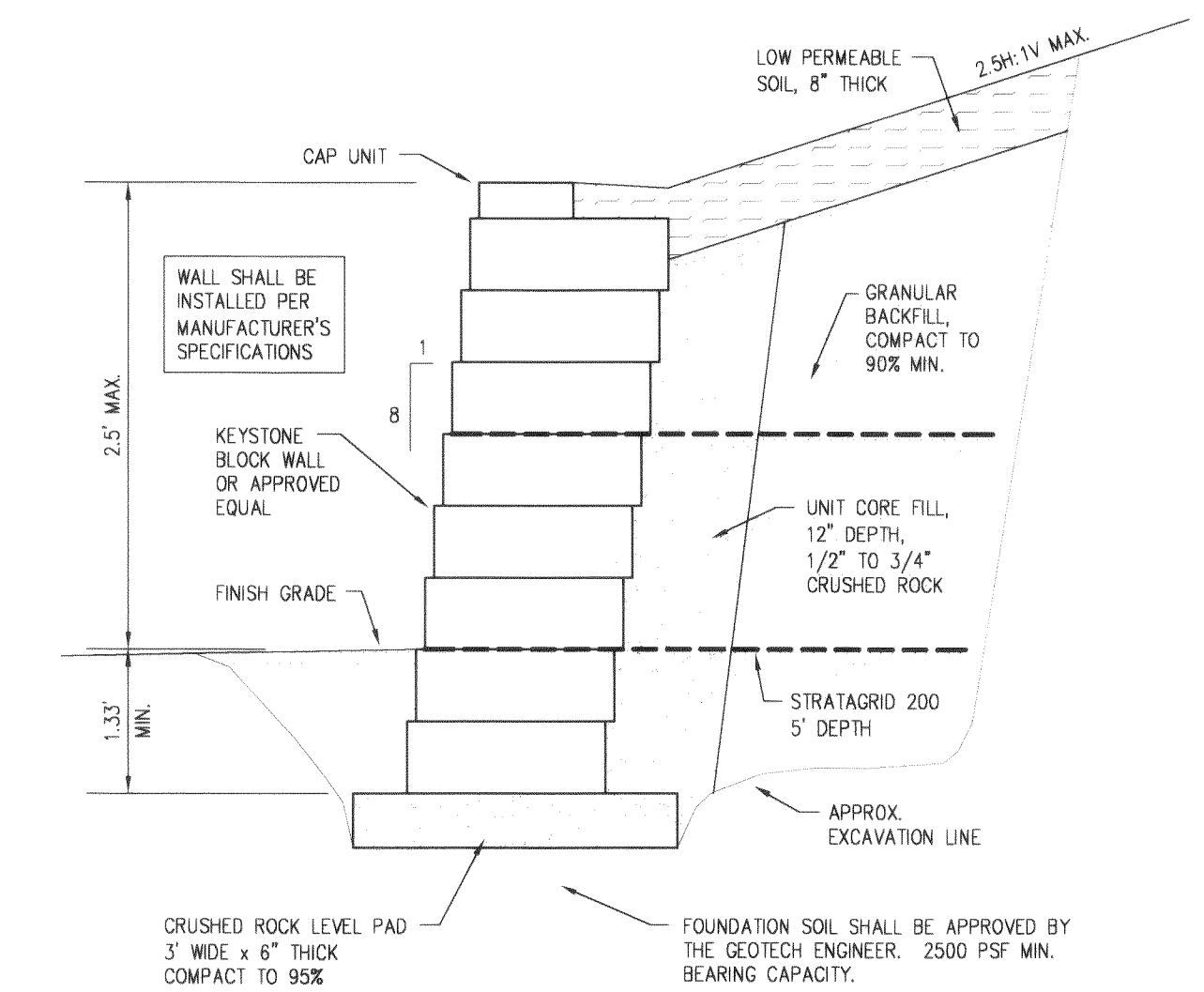
SHEET NO.
C2.3

00250.0007 2.16.06 KR



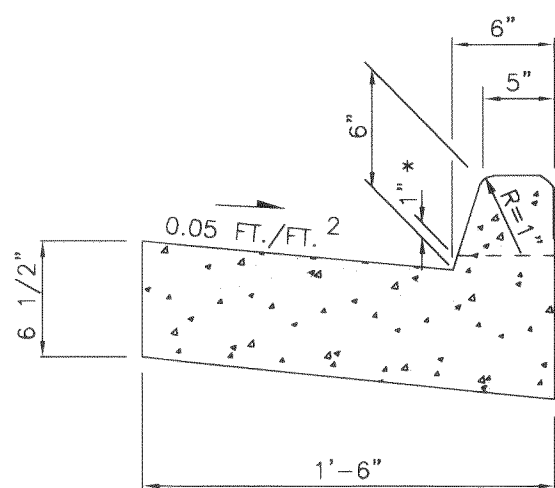
SAMUELS DRIVEWAY IMPROVEMENTS

SCALE: 1" = 30'



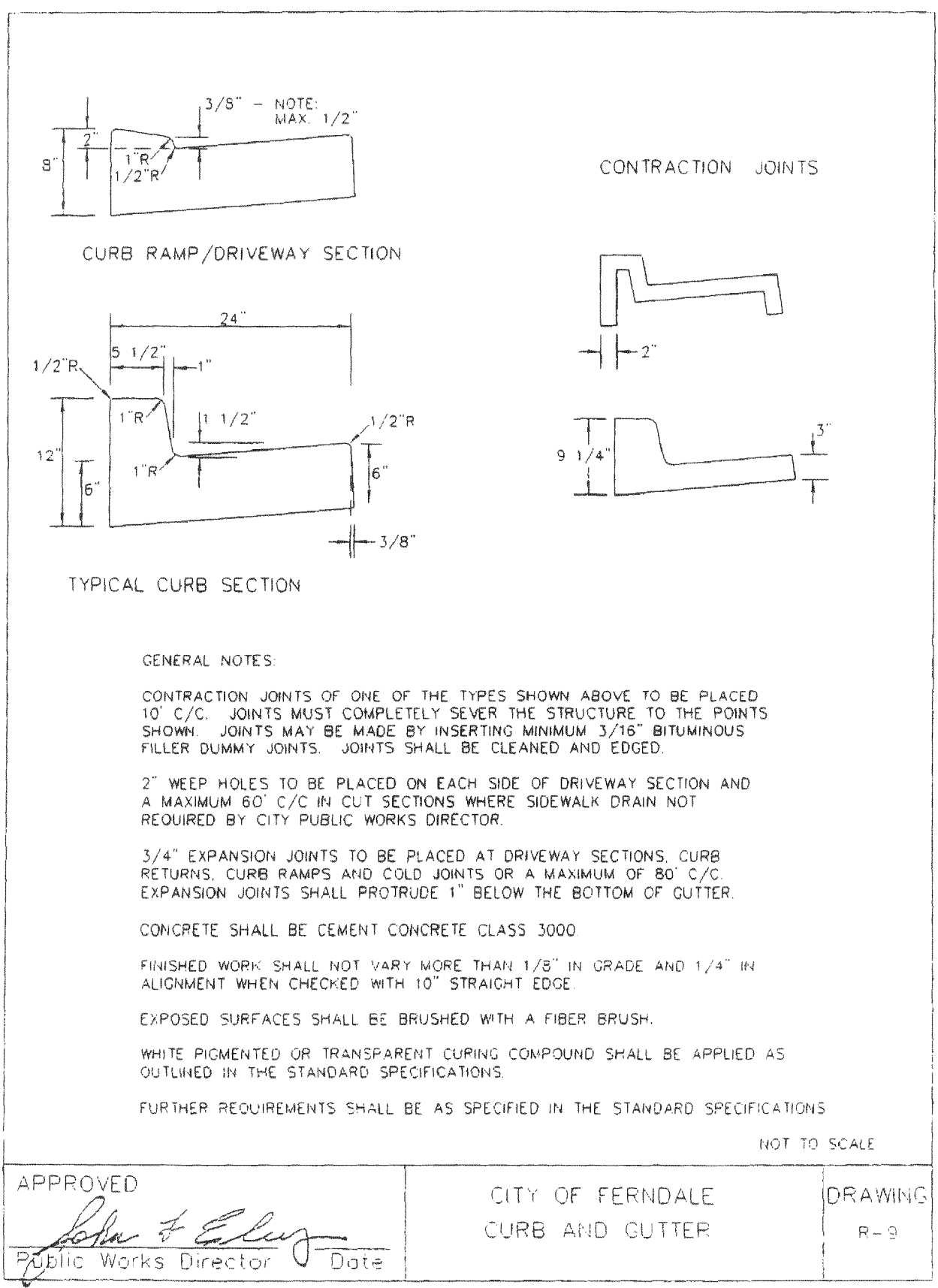
1 CONCRETE BLOCK WALL

C2.4 SCALE: N.T.S.



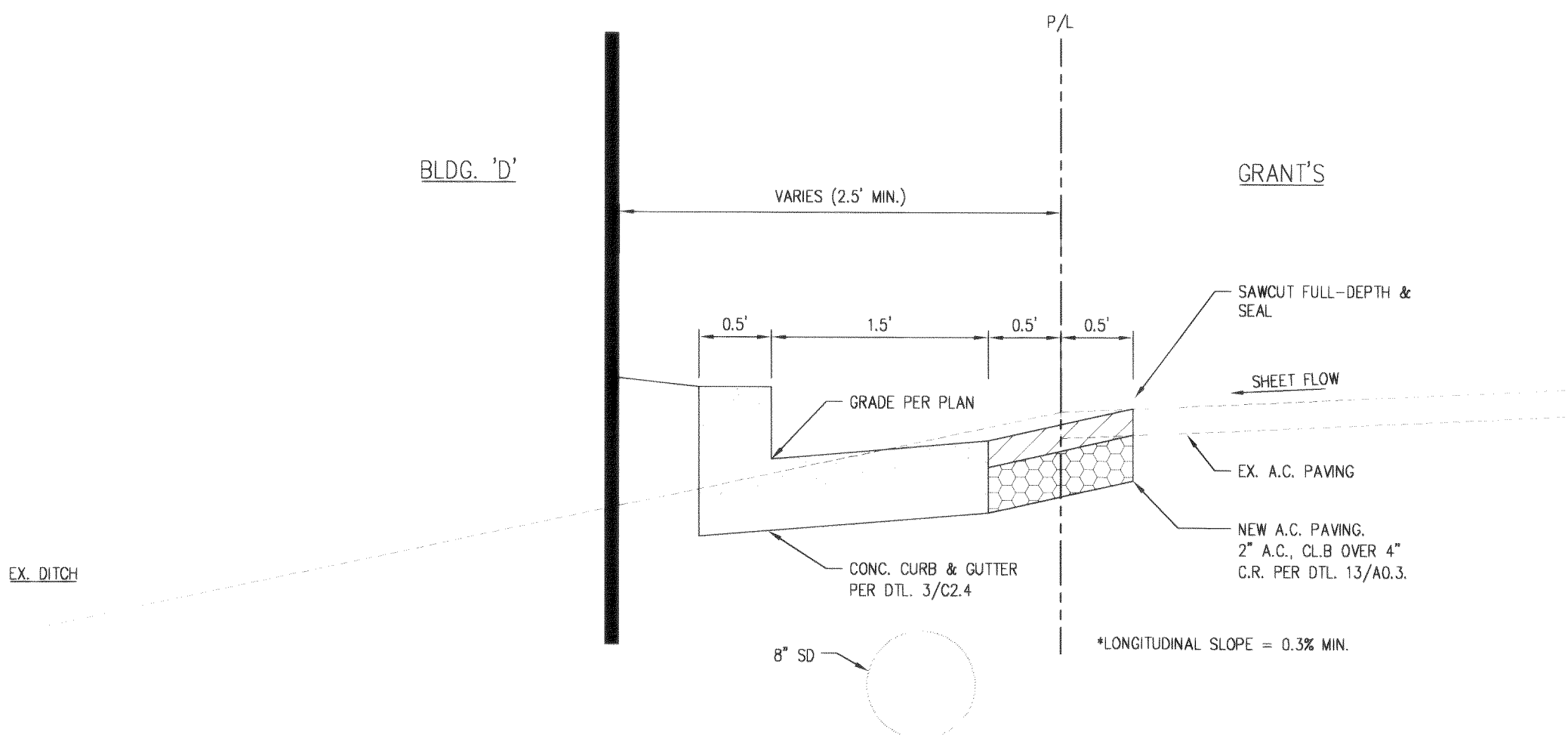
2 CONCRETE CURB & GUTTER

C2.4 SCALE: N.T.S. (FOR ON SITE USE ONLY)



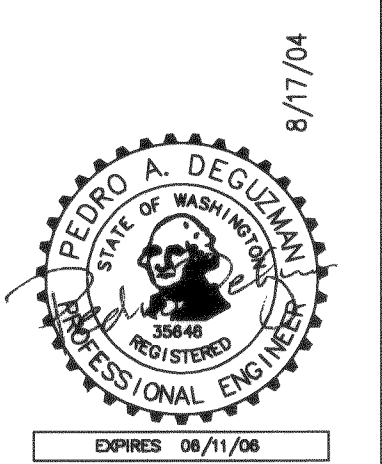
3 CONCRETE CURB & GUTTER

C2.4 SCALE: N.T.S. (FOR OFF SITE USE)



4 SECTION - EAST PROPERTY LINE GUTTER

C2.4 SCALE: N.T.S.



	8/17/04	9/13/04	5/5/04	4/27/04	4/14/04	2/18/04	1/15/04	12/16/03	DATE
8	ADD NOTES BY CITY, REVISED WATER EASEMENT								
7	AS-BUILT								
6	REVISED WATER SERVICES								
5	REVISED FIRE SERVICE TO BLDG. 'D'								
4	ENGINEERING REVISIONS								
3	WALGREENS CORRECTIONS								
1	REVISED PER CITY COMMENTS								
--	PERMIT SUBMITTAL								
N2	REVISION								

TERRAFORMA
DESIGN GROUP, INC.
CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE
5212 37th Avenue SW Seattle WA 98126
phone 206.923.0560 fax 206.923.3507 email office@terraformdesigngroup.com

PROJECT NO. 03009
DRAWN BY: CSM
CHECKED BY: PAD

WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE
CIVIL DETAILS

SHEET NO.
C2.4

GENERAL CIVIL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, ITS CURRENT AMENDMENTS, ATTACHED SPECIAL PROVISIONS, WSDOT STANDARD PLANS AND DETAILS, CITY OF FERNDALE STANDARD DRAWINGS (REFERENCE CITY OF BELLINGHAM) AND THESE PLANS.
2. THE CONTRACTOR SHALL CLOSELY COORDINATE ALL WORK WITH THE CITY'S ROADWAY IMPROVEMENT PLANS. SPECIAL ATTENTION IS CALLED TO THE PROPOSED UNDERGROUND UTILITY INSTALLATIONS AND ABANDONMENTS WHICH SHALL BE INSTALLED PRIOR TO ANY MAIN STREET PAVING OR SUBGRADE PREPARATION WORK.
3. THE CONTRACTOR SHALL COORDINATE WITH THE PERTINENT UTILITY COMPANIES FOR THIS WORK.
4. CONTRACTOR SHALL COMPLY WITH THE SPECIAL PROVISIONS OF THE MAIN STREET IMPROVEMENT PROJECT WHEN PERFORMING WORK WITHIN CITY RIGHT-OF-WAY.

EROSION CONTROL NOTES

- ALL EROSION CONTROL BMP'S CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THE CITY OF FERNDALE STANDARD DETAILS AND THESE PLANS.
- THE FOLLOWING EROSION AND SEDIMENT CONTROL REQUIREMENTS SHALL BE MET:
1. STABILIZATION AND SEDIMENT TRAPPING. ALL EXPOSED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF BMP'S. FROM OCTOBER 1 TO APRIL 30, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN 7 DAYS. PRIOR TO LEAVING THE SITE, STORMWATER RUNOFF SHALL PASS THROUGH A SEDIMENT POND OR SEDIMENT TRAP, OR OTHER APPROPRIATE BMP'S.
2. DELINEATE CLEARING AND EASEMENT LIMITS, IN THE FIELD, STAKE AND FLAG CLEARING LIMITS AND/OR ANY EASEMENTS, SETBACKS, SENSITIVE CRITICAL AREAS AND THEIR BUFFERS, TREES AND DRAINAGE COURSES.
3. PROTECTION OF ADJACENT PROPERTIES. PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION.
4. TIMING AND STABILIZATION OF SEDIMENT TRAPPING MEASURES. SEDIMENT PONDS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER BMP'S INTENDED TO TRAP SEDIMENT ON-SITE SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL BEFORE LAND DISTURBING ACTIVITIES TAKE PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS SHALL BE SEEDED AND MULCHED ACCORDING TO THE TIMING INDICATED IN SEC. 1106(1).
5. CUT AND FILL SLOPES. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. IN ADDITION, SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH SEC 1106(1).
6. CONTROLLING OFF-SITE EROSION. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VOLUME, VELOCITY, AND PEAK FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.
7. STABILIZATION OF TEMPORARY CONVEYANCE CHANNELS AND OUTLETS. ALL TEMPORARY ON-SITE CONVEYANCE CHANNELS SHALL BE DESIGNED, CONSTRUCTED AND STABILIZED TO PREVENT EROSION FROM THE EXPECTED VELOCITY OF FLOW FROM A 2-YEAR, 24-HOUR FREQUENCY STORM FOR THE DEVELOPED CONDITION. STABILIZATION ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAMBANKS, SLOPES AND DOWNSTREAM REACHES SHALL BE PROVIDED AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.
8. STORM DRAIN INLET PROTECTION. ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
9. UNDERGROUND UTILITY CONSTRUCTION. THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:
- A) WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.

EROSION CONTROL NOTES CONT.

- B) WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- C) TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
10. CONSTRUCTION ACCESS ROUTES. WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) ONTO THE PAVED ROAD. IF SEDIMENT IS TRANSPORTED ONTO A ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
11. REMOVAL OF TEMPORARY BMP'S. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
12. DEWATERING CONSTRUCTION SITES. DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
13. CONTROL OF POLLUTANTS OTHER THAN SEDIMENT ON CONSTRUCTION SITES. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.
14. MAINTENANCE. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH AN APPROVED MANUAL.
15. FINANCIAL LIABILITY. PERFORMANCE BONDING, OR OTHER APPROPRIATE FINANCIAL INSTRUMENTS, SHALL BE REQUIRED FOR ALL PROJECTS TO ENSURE COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

SEWER CONSTRUCTION NOTES

1. ALL SEWER CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THE CITY OF FERNDALE STANDARD DETAILS AND THESE PLANS.
2. MATERIAL. ANY GENERALLY ACCEPTED MATERIAL FOR SEWERS WILL BE GIVEN CONSIDERATION, BUT THE MATERIAL SELECTED SHOULD BE ADAPTED TO LOCAL CONDITIONS, SUCH AS CHARACTERISTICS OF INDUSTRIAL WASTES, POSSIBILITY OF SEPTICITY, SOIL CHARACTERISTICS, EXCEPTIONALLY-HEAVY EXTERNAL LOADINGS, ABRASION, AND SIMILAR PROBLEMS. MATERIAL AND INSTALLATION SPECIFICATIONS FOR ALL PIPE, EXCEPT CLEANOUTS, SHALL CONFORM TO THE STANDARD SPECIFICATIONS, CURRENT EDITION. CLEANOUTS SHALL BE ACCORDING TO CITY OF FERNDALE STANDARD DETAILS SS-5 (DOT B-18b). UNLESS OTHERWISE STATED, ALL MATERIALS SPECIFICATIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS, CURRENT EDITION. REQUIREMENTS SHALL BE SET FORTH IN THE SPECIFICATIONS FOR THE PIPE AND METHODS OF BEDDING AND BACKFILLING SO AS NOT TO DAMAGE THE PIPE OR ITS JOINTS, IMPEDE CLEANING OPERATIONS AND FUTURE TAPPING, NOR CREATE EXCESSIVE SIDE FILL PRESSURE OR OVULATIONS OF THE PIPE, NOR SERIOUSLY IMPAIR FLOW CAPACITY. ALL SEWERS SHALL BE DESIGNED TO PREVENT DAMAGE FROM SUPERIMPOSED LOADS. PROPER ALLOWANCE FOR LOADS ON THE SEWER SHALL BE MADE BASED ON THE WIDTH OF DEPTH OF TRENCH. WHEN STANDARD-STRENGTH SEWER PIPE IS NOT SUFFICIENT, THE ADDITIONAL STRENGTH NEEDED MAY BE OBTAINED BY USING EXTRA-STRENGTH PIPE OR BY SPECIAL CONSTRUCTION, SUCH AS IMPROVING BEDDING CONDITIONS OR ENCASEING THE PIPE IN CONCRETE. WHEN EXTRA-STRENGTH PIPE IS REQUIRED, THE DESIGN CRITERIA (LOADING REQUIREMENTS, SOIL STRENGTHS, ETC.) SHALL BE SUPPLIED TO THE CITY.
3. CONNECTION TO EXISTING SEWER MAIN. WHEN A SEWER SERVICE OR MAIN MUST BE CONNECTED TO AN EXISTING SEWER MAIN, INSTALLATION SHALL CONFORM TO THE CITY OF FERNDALE STANDARD DETAIL SS-12.

SEWER CONST. NOTES CONT.

4. SPECIFICATIONS FOR SEWER PIPE. THE FOLLOWING SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
- A) MATERIALS TO BE USED FOR BEDDING OF THESE FLEXIBLE CONDUITS SHALL CONFORM TO MATERIALS LISTED IN WSDOT STANDARD SPECIFICATIONS. NO BEDDING MATERIAL SHALL BE USED UNLESS ACCEPTED BY THE PUBLIC WORKS DIRECTOR. SAMPLES SHALL BE SUBMITTED BY THE CONTRACTOR AT LEAST 72 HOURS IN ADVANCE OF ITS INTENDED USE TO ENABLE IT TO BE INSPECTED AND TESTED.
- B) BEDDING SHALL BE PLACED IN MORE THAN ONE LIFT AS SHOWN IN STANDARD DETAIL SS-1 (DOT B-18c). THE FIRST LIFT TO PROVIDE AT LEAST 4 INCH THICKNESS UNDER ANY PORTION OF THE PIPE (6 INCHES IN THE CASE OF SOLID ROCK EXCAVATION) TO BE PLACED BEFORE THE PIPE IS INSTALLED. THIS BEDDING LAYER SHALL EXTEND THE FULL WIDTH OF THE TRENCH BOTTOM TO THE SPECIFIED THICKNESS AFTER BEING CONSOLIDATED BY THE USE OF A "FLAT TAMPER". THIS LIFT SHALL BE SPREAD SMOOTHLY AND BELL HOLES DUG WHERE NECESSARY TO ENSURE UNIFORM SUPPORT ALONG THE FULL LENGTH OF THE PIPE BARREL.
- C) SUBSEQUENT LIFTS OF NOT MORE THAN 6 INCHES SHALL BE PLACED UP TO THE SPRING LINE OF THE PIPE. THESE LIFTS SHALL BE CONSOLIDATED FIRST BY THE USE OF TAMPING BARS, TAKING CARE TO WORK THE MATERIAL UNDER THE PIPE HAUNCHES SO THAT NO VOIDS ARE LEFT, THEN A FLAT TAMPING BAR SHALL BE USED TO COMPACT THE BEDDING MATERIAL ALONG THE SIDE OF THE PIPE TO THE TRENCH WALLS TO PROVIDE LATERAL SUPPORT FOR THE PIPE. THESE LIFTS SHALL BE INDIVIDUALLY COMPACTED TO 90 PERCENT DENSITY AS DETERMINED BY ASTM D698, METHOD "D".
- D) FURTHER LIFTS OF MODERATELY-COMPACTED BEDDING MATERIAL SHALL BE PLACED, NOT MORE THAN 6 INCHES THICKNESS TO A MINIMUM OF 8 INCHES, ABOVE THE CROWN OF THE PIPE (A MINIMUM OF 12" ABOVE THE CROWN OF THE PIPE WHERE ROCK IS ENCOUNTERED IN TRENCH EXCAVATION.)

5. BANK-RUN GRAVEL FOR TRENCH BACKFILL. WHENEVER A TRENCH IS EXCAVATED IN THE EXISTING OR NEWLY-PAVED ROADWAY, SIDEWALK OR OTHER AREAS WHERE MINOR SETTLEMENT WOULD BE DETRIMENTAL, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH BANK-RUN GRAVEL, CLASS "B", AND COMPACTED TO A 95 PERCENT DENSITY AS DEFINED BY ASTM D-1556. SELECTED NATIVE MATERIALS MAY BE USED FOR TRENCH BACKFILL IN OTHER AREAS IF APPROVED.

6. JOINTS AND INFILTRATION. THE METHOD OF MAKING JOINTS AND MATERIALS USED SHALL BE INCLUDED IN THE SPECIFICATIONS. LEAKAGE TESTS SHALL BE ACCORDING TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION SE-7-17.3(4)F FOR NON-AIR-PERMEABLE MATERIALS AND SE-7-17.3(4)D FOR AIR-PERMEABLE MATERIALS.

THE USE OF TELEVISION CAMERA OR OTHER VISUAL METHODS FOR INSPECTION PRIOR TO PLACING THE SEWER IN SERVICE IS REQUIRED.

7. MANHOLES. MANHOLES SHALL CONFORM TO CITY OF FERNDALE STANDARD DETAILS SS-2 (DOT B-23a) THROUGH SS-4 (DOT B-23c).

- A) MANHOLES SHALL BE INSTALLED AT THE END OF EACH LINE OF 8 INCH DIAMETER OR GREATER UNLESS THE 8 INCH LINE IS EXPECTED TO BE EXTENDED IN THE FORESEEABLE FUTURE IN WHICH CASE, A CLEANOUT SHALL BE INSTALLED AT THE END OF THE LINE; AT ALL CHANGES IN GRADE, SIZE OR ALIGNMENT; AT ALL INTERSECTIONS; AND AT DISTANCES NOT GREATER THAN 400 FEET FOR SEWERS 15 INCHES OR LESS AND 500 FEET FOR SEWERS 18 INCHES TO 30 INCHES. CLEANOUTS MAY BE USED IN LIEU OF MANHOLES AT THE END OF LINES 8 INCHES IN DIAMETER AND NOT MORE THAN 150 FEET LONG IF THEY ARE ACCESSIBLE TO THE CITY'S MAINTENANCE EQUIPMENT. CLEANOUTS SHALL CONFORM TO THE CITY OF FERNDALE STANDARD DETAIL SS-5 (DOT B-18b).

SEWER CONST NOTES CONT.

- B) DROP MANHOLES SHALL CONFORM IN ALL RESPECTS TO CITY OF FERNDALE STANDARD DETAILS SS-10 AND SS-11. AN OUTSIDE DROP CONNECTION SHALL BE PROVIDED FOR A SEWER ENTERING A MANHOLE AT AN ELEVATION OF 24 INCHES OR MORE ABOVE THE MANHOLE INVERT. WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE INCOMING SEWER AND THE MANHOLE INVERT IS LESS THAN 24 INCHES, THE INVERT SHALL BE FILLETED TO PREVENT SOLIDS DEPOSITION.
- C) THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES, ALTHOUGH LARGER DIAMETERS ARE PREFERABLE. THE MINIMUM CLEAR OPENING IN THE MANHOLE FRAME SHALL BE 23 INCHES. MANHOLES CONNECTING SIGNIFICANT INDUSTRIES TO THE SYSTEM SHOULD BE LARGER, TO PROVIDE SPACE FOR MONITORING AND SAMPLING EQUIPMENT FLOW CHANNELS IN MANHOLES SHALL BE OF SUCH SHAPE AND SLOPE TO PROVIDE A SMOOTH TRANSITION BETWEEN INLET AND OUTLET SEWER AND TO MINIMIZE TURBULENCE. CHANNELING HEIGHT SHALL BE TO THE CROWNS OF THE SEWERS. BENCHES SHALL BE SLOPED FROM THE MANHOLE WALL TOWARD THE CHANNEL TO PREVENT ACCUMULATION OF SOLIDS.
- D) WATERTIGHT MANHOLE COVERS SHALL BE USED WHEREVER THE MANHOLE TOPS MAY BE FLOODED. MANHOLES OF BRICK OR SEGMENT BLOCK SHALL BE WATERPROOF ON THE EXTERIOR WITH PLASTER COATINGS, SUPPLEMENTED BY A BITUMINOUS WATERPROOF COATING WHERE GROUNDWATER CONDITIONS ARE UNFAVORABLE.
- E) DIRECT-LINE CONNECTIONS TO THE MANHOLES OR TO SHORT STUBS INTEGRAL WITH THE MANHOLES SHALL BE MADE WITH FLEXIBLE JOINTS. FLEXIBLE JOINTS ARE THOSE WHICH PERMIT THE MANHOLES TO SETTLE WITHOUT DESTROYING THE WATERTIGHT INTEGRITY OF THE LINE CONNECTIONS.
- F) VENTILATION OF GRAVITY SEWER SYSTEMS SHOULD BE CONSIDERED WHERE CONTINUOUS WATERTIGHT SECTIONS GREATER THAN 1,000 FEET IN LENGTH ARE INCURRED.
- G) FRAMES AND COVERS SHALL CONFORM TO THE CURRENT CITY OF FERNDALE STANDARD DETAIL SS-9 (DOT B-25). FRAMES AND COVERS OF ALUMINUM MATERIAL WILL BE ALLOWED IF APPROVED BY THE PUBLIC WORKS DIRECTOR.
- H) ALL COVERS LOCATED IN AN EASEMENT OR CONSTRUCTED OF ALUMINUM MATERIAL SHALL BE THE LOCKING TYPE.
- I) MATERIALS USED FOR MANHOLE STEPS SHALL BE HIGHLY CORROSION RESISTANT. THE USE OF GALVANIZED STEEL SHOULD BE AVOIDED. MANHOLE STEPS AND LADDERS SHALL CONFORM TO STANDARD DETAIL SS-4 (DOT B-24).

8. RELATION TO WATER MAINS SHALL BE AS FOLLOWS:

- A) HORIZONTAL SEPARATION. WHENEVER POSSIBLE, SEWERS SHOULD BE LAID AT LEAST 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER MAIN IF THE SEWER IS CONSTRUCTED OF CAST-IRON OR DUCTILE-IRON PIPE WITH WATERTIGHT JOINTS. AND:
- I) IT IS LAID IN A SEPARATE TRENCH; OR
- II) IT IS LAID IN THE SAME TRENCH WITH THE WATER MAINS LOCATED AT ONE SIDE ON A BENCH OR UNDISTURBED EARTH.

IN EITHER CASE, THE ELEVATION OF THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN AND IN NO CASE WILL THE SEWER BE SEPARATED HORIZONTALLY FROM THE WATER MAIN LESS THAN 4 FEET.

- E) FIRE HYDRANT INSTALLATION MUST COMPLY WITH STANDARD DETAIL W-1 (DOT B-19).
- F) FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.
3. STANDARDS FOR WATER MAIN CONSTRUCTION
- A) PIPE FOR WATER MAIN. ALL PIPE SHALL BE OF AWWA STANDARDS H3-71, C151-71 AND CEMENT LINING C104-71, AND SHALL BE DUCTILE CAST-IRON, STANDARD THICKNESS CLASS 50 PUSH-ON JOINTS OR M.J. JOINTS. THE PIPE SHALL BE OF 150 PSI WORKING PRESSURE, PLUS 100 PSI SURGE PRESSURE. NO PVC OR AC PIPE WILL BE ALLOWED.

SEWER CONST NOTES CONT.

- B) VERTICAL SEPARATION. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN.
- WHEN THE ELEVATION OF THE SEWER CANNOT BE BURIED TO MEET THE ABOVE REQUIREMENTS, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR THE SEWER CONSTRUCTED WITH SLIP-ON OR MECHANICAL-JOINT CAST-IRON PIPE, OR PRE-STRESSED-CONCRETE CYLINDER PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN. ONE FULL PIPE LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
- C) SIDE SEWER INSTALLATION. FOUR OR SIX INCH SIDE SEWER INSTALLATIONS AND AS-BUILTS SHALL CONFORM TO CITY OF FERNDALE STANDARD DETAILS SS-6 THROUGH SS-8. FOR NEW SEWER MAIN CONSTRUCTION, 4 OR 6 INCH TEES SHALL BE PLACED ON SEWER MAINS AS SHOWN ON PLANS OR AS THE PUBLIC WORKS DIRECTOR DESIGNATES. DOUBLE SERVICES SHALL CONFORM TO CITY OF FERNDALE STANDARD DETAIL SS-13.

- D) AS-BUILT INFORMATION REQUIRED. LOCATION OF MANHOLES, CLEANOUTS, INVERTS, SIDE SEWER SADDLES ON SEWER MAIN, SIDE SEWER ENDS WITH DISTANCES TO THE RIGHT-OF-WAY, PROPERTY CORNERS & DEPTHS.

WATER NOTES

1. ALL WATER CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THE CITY OF FERNDALE STANDARD DETAILS AND THESE PLANS.
2. FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO CITY OF FERNDALE STANDARD DETAIL W-1 (DOT B-19) AND THE FOLLOWING STANDARDS:

- A) FIRE HYDRANTS SHALL HAVE INDIVIDUALLY -VALVED TWO 2-1/2 INCH PORTS AND ONE 5-1/4 INCH MAIN VALVE OPENING. A 4-1/2 INCH NST PUMPER NOZZLE AND A 5 INCH STORZ PORT WITH CAP AND CABLE SHALL BE SUPPLIED. HYDRANTS SHALL BE EITHER IOWA OR M.H. 929T HYDRANT.
- B) FIRE HYDRANTS SHALL HAVE THE STORZ PORT FACING THE REQUIRED ACCESS AND THE BASE FLANGE OF THE HYDRANT MUST NOT VARY MORE THAN 1 FOOT IN ELEVATION FROM THE GRADE LEVEL OF THE REQUIRED ACCESS. THE LOWEST STEM SHALL BE A MINIMUM OF 14 INCHES ABOVE THE GROUND.
- C) IN THE OPINION OF THE PUBLIC WORKS DIRECTOR, FIRE HYDRANTS ARE VULNERABLE TO VEHICULAR DAMAGE, APPROPRIATE CRASH POSTS SHALL BE PROVIDED. NO OBSTRUCTIONS SHALL EXIST WITHIN A 3 FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4 INCH CEMENT-FILLED PIPE MINIMUM 3 FEET IN HEIGHT WITH 2 FEET OF PIPING BELOW GRADE. HYDRANT SHUTOFF VALVES SHALL BE LOCATED BETWEEN 5 AND 20 FEET FROM THE HYDRANT.
- D) UNDERGROUND SUPPLIES TO FIRE HYDRANTS MUST BE INSPECTED. SUCH INSPECTION SHALL INCLUDE VISUAL INSPECTION OF PIPING AND HYDROSTATIC PRESSURE TEST OF A MINIMUM OF 200 PSI OR 50 PSI IN EXCESS OF STREET MAIN PRESSURE, WHICHEVER IS GREATER. A FLOW TEST WILL BE REQUIRED WHEN INSTALLATION IS COMPLETE.

- E) FIRE HYDRANT INSTALLATION MUST COMPLY WITH STANDARD DETAIL W-1 (DOT B-19).
- F) FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.

- G) TYPE "K" COPPER SHALL BE USED ON WATER SERVICES WITHIN THE PUBLIC RIGHT-OF-WAY.
- H) CURB STOPS SHALL BE LOCATED NO CLOSER THAN THREE (3) FEET OR FARTHER THEN FIVE (5) FEET FROM THE PROPERTY LINE. STOP-AND-WASTE TYPE CURB STOPS ARE NOT ALLOWED.

- I) ALL UNDERGROUND FITTINGS SHALL BE FLARED WITHIN THE PUBLIC RIGHT-OF-WAY. NO SWEAT OR COMPRESSION CONNECTIONS ARE TO BE USED. THE USE OF TEFLON TAPE AS A SEALANT IS ACCEPTABLE, BUT THE USE OF PIPE DOPE IS NOT ACCEPTABLE.

WATER NOTES CONT.

- PIPE LAYING SHALL MEET THE REQUIREMENTS OF SECTION 7-11 OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. ALL PIPE SHALL HAVE MINIMUM COVERING OF 3.5 FEET.
- B) FITTINGS. MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-ON JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.
- C) CONCRETE THRUST BLOCKING. CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERNDALE STANDARD DETAILS W-2 THROUGH W-4, OR AS DIRECTED BY THE PROJECT ENGINEER. BLOCKS SHALL BE INSTALLED AS SPECIFIED IN SECTION 7-11.3(13) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRECAST BLOCKS ARE ALLOWED.
- D) CONNECTION TO EXISTING WATER MAINS. THE CONTRACTOR MUST NOTIFY THE FERNDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION TIME AT LEAST FOUR WORKING DAYS IN ADVANCE.
- E) HYDROSTATIC TESTING AND DISINFECTION OF WATER MAIN. ALL HYDROSTATIC TESTING AND DISINFECTION OF WATER MAINS SHALL CONFORM TO SECTIONS 7-11.3(11) AND 7-11.3(12) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION - CURRENT EDITION. HYDROSTATIC TESTING INSPECTED BY CITY.

- F) WATER SERVICE TRANSFERS. TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE CITY OF FERNDALE STANDARD DETAILS.
- G) GATE VALVES. GATE VALVES SHALL BE FOR LINES 2 INCHES THROUGH 10 INCHES, AND SHALL BE INSTALLED IN CAST-IRON VALVE BOXES. SHORT-BODY VALVES SUITABLE FOR A NONSHOCK SHUT-OFF PRESSURE OF 130 PSI RESILIENT SEAT VALVES AND SUITABLE FOR DIRECT BURIAL ARE SPECIFIED.
- GATE VALVES SHALL BE RESILIENT SEATED IRON-BODY, FULL-BRONZE MOUNTED VALVES CONFORMING TO AWWA C509 AND SUITABLE FOR SERVICE WITH THE TYPE AND CLASS OF PIPE USED.

- ALL VALVES SHALL HAVE NONRISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS.
- VALVE MARKERS SHALL BE LOCATED OUTSIDE OF PAVEMENT SECTION.

4. WATER SERVICE INSTALLATION REQUIREMENTS

- A) TAPPING WITH TAPPING CLAMP AND SADDLE MUST USE I.P. THREADED CORPORATIONS. IF THE DRY-TAP METHOD IS USED, THE FOLLOWING MINIMUM HOLE SIZES SHALL BE USED:
- 1 7/8" FOR 2" SERVICE
- 1 7/16" FOR 1 1/2" SERVICE
- 1 5/16" FOR 1" SERVICE
- 1 1/16" FOR 3/4" SERVICE
- CAUTION, CARE, AND PRUDENCE IS NECESSARY IN ALIGNING THE CLAMP AND SADDLE TO ASSURE FULL FLOW CAPABILITY.
- B) CORPORATION TAPS SHALL MAKE AS NEARLY AS POSSIBLE A 45 DEGREE ANGLE OFF THE VERTICAL CENTER LINE OF THE MAIN. NO TAP IS TO BE MADE ON THE TOP OF THE WATER MAIN.

- C) TYPE "K" COPPER SHALL BE USED ON WATER SERVICES WITHIN THE PUBLIC RIGHT-OF-WAY.
- D) CURB STOPS SHALL BE LOCATED NO CLOSER THAN THREE (3) FEET OR FARTHER THEN FIVE (5) FEET FROM THE PROPERTY LINE. STOP-AND-WASTE TYPE CURB STOPS ARE NOT ALLOWED.

- E) ALL UNDERGROUND FITTINGS SHALL BE FLARED WITHIN THE PUBLIC RIGHT-OF-WAY. NO SWEAT OR COMPRESSION CONNECTIONS ARE TO BE USED. THE USE OF TEFLON TAPE AS A SEALANT IS ACCEPTABLE, BUT THE USE OF PIPE DOPE IS NOT ACCEPTABLE.

WATER NOTES CONT.

- F) THE WATER SERVICE PIPE SHALL HAVE A MINIMUM OF 24 INCH DEPTH AND A MAXIMUM OF 36 INCH DEPTH, INCLUDING UNDER DITCH SECTIONS. IF A METER IS REQUIRED, THERE SHALL BE 30 INCHES COVER IN THE METER AREA.
- G) NO SERVICE IS TO BE COVERED UNTIL THE CITY INSPECTOR HAS INSPECTED THE INITIAL INSTALLATION. NOTE THAT ALL CORPORATIONS MUST BE IN AN ON POSITION AND ALL CURB STOPS MUST BE IN THE OFF POSITION.
- H) SERVICE TESTING SHALL BE DONE IN CONJUNCTION WITH WATER MAIN TESTING. ANY AIR RELIEF AND FLUSHING SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
- I) AN ACCEPTANCE INSPECTION WILL BE MADE BY THE CITY UPON COMPLETION OF ALL PROJECT WORK. DURING THE INSPECTION, EVERY SERVICE SHALL BE TURNED ON TO ITS FULL CAPACITY TO CHECK FLOW AND GUARANTEE THAT EACH SERVICE LINE HAS BEEN FLUSHED. IN NO CASE SHALL THE ACCEPTANCE INSPECTION BE MADE UNTIL ALL PROJECT WORK IS COMPLETE. DAMAGE INCURRED DURING OTHER CONSTRUCTION WORK ON THE PROJECT SHALL BE CORRECTED BY THE DEVELOPER OR HIS AGENT PRIOR TO ACCEPTANCE BY THE CITY.
- J) THE BOND RELEASE INSPECTION SHALL BE MADE PRIOR TO THE END OF THE 2 YEAR MAINTENANCE BOND PERIOD. ANY PROBLEMS NOTED AT THIS TIME SHALL BE CORRECTED BY THE DEVELOPER AND/OR BONDING COMPANY PRIOR TO RELEASING THE BOND.
5. WATER SERVICE METER BOX INSTALLATION REQUIREMENTS
- A) COVER OF 24 TO 30 INCHES SHALL BE MAINTAINED FROM FINISHED GRADE TO THE SERVICE PIPE EXCEPT WHERE A VARIANCE IS APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. NOTE THAT THE TOP OF THE BOX SHALL BE FLUSH WITH THE FINISHED GRADE AND THAT THIS INCLUDES THE EXPANSION MATERIAL WHEN REQUIRED.
- B) THE METER SETTER OR CURB STOP SHALL BE LOCATED WITHIN THE METER BOX.
- I. MINIMUM CLEARANCE OF 1 INCH FROM INSIDE SURFACE.
- II. MAXIMUM CLEARANCE OF 2 INCHES FROM INSIDE SURFACE SHALL BE MAINTAINED FROM THE STOP.
- III. STOPS SHALL BE WITHIN 3 TO 5 FEET FROM THE PROPERTY LINE WITHIN THE PUBLIC RIGHT-OF-WAY OR AS APPROVED BY THE CITY, EXCEPT WHEN THIS PUTS THE STOP IN THE SIDEWALK, IN WHICH CASE THE STOP WILL BE LOCATED IN THE PLANTING STRIP.
- C) METER BOXES SHALL CONFORM TO THE CITY OF FERNDALE STANDARD DETAILS W-6 THROUGH W-8. P.V.C. BOXES ARE NOT TO BE USED.
- D) LOCATION OF METER BOXES
- I. IF A METER BOX FOR A 3/4 OR 1 INCH SERVICE IS TO BE LOCATED WITHIN A SIDEWALK AREA, A #3 SKAGIT METER TRAFFIC-TYPE BOX MUST BE USED WITH A HEAVY-DUTY 1/4 INCH DECK PLATE LID. IN ANY TRAFFIC AREAS A PYRAMID-TYPE BOX WITH A FRAMED LID MUST BE USED.
- II. AN EXPANSION MATERIAL MUST BE USED AROUND THE LID SECTION TO ENABLE REMOVAL FOR MAINTENANCE. THE MATERIAL SHALL BE FLUSH WITH THE LID SECTION TO AVOID ANY CRACKS OR PROTRUSIONS.
- III. AS-BUILTS SHALL SHOW LOCATION OF WATER SERVICE TAPS INTO MAIN, LOCATION OF METER/BOXES WITH DISTANCES TO THE RIGHT-OF-WAY OR NEAREST PROPERTY CORNERS.

STORM NOTES

1. ALL STORM CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE 2002 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THE CITY OF FERNDALE STANDARD DETAILS AND THESE PLANS.
2. GENERAL DRAIN PIPE MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF WSDOT OR APWA STANDARD SPECIFICATIONS AND WITH THE FOLLOWING:
- A) BEDDING AND BACKFILL. PIPE BEDDING AND TRENCH BACKFILL REQUIREMENTS SHALL BE AS SHOWN IN CITY OF FERNDALE STANDARD DETAIL SS-1 (DOT B-18c) AND AS SPECIFIED IN THE STATE STANDARD SPECIFICATIONS.
- B) CROSS CULVERT SIZING. WHERE OPEN CHANNELS INTERSECT PUBLIC STREETS, THE MINIMUM DIAMETER CROSS CULVERT SHALL BE 18 INCHES, UNLESS OTHERWISE APPROVED. CROSS CULVERTS SHALL BE DESIGNED TO CARRY THE DESIGN RUNOFF WITH A HEADWATER DEPTH NOT GREATER THAN TWO (2) TIMES THE CULVERT DIAMETER FOR CULVERTS 18 INCHES OR UNDER, OR 1.5 TIMES THE CULVERT DIAMETER FOR CULVERTS GREATER THAN 18 INCHES.
- C) PIPE ANCHORS. PIPE ANCHORS MAY BE REQUIRED WHEN PIPE SLOPES EXCEED 15 PERCENT, OR WHEN DRAINAGE STRUCTURES ARE CONSTRUCTED IN, OR PLACED ON UNSTABLE SOILS UNLESS THE STABILITY OF THE SOILS AND THE PLACEMENT OF THE PIPE IS CERTIFIED BY A LICENSED GEO-TECHNICAL ENGINEER.
- D) CATCH BASINS. TYPE II CATCH BASINS OR LARGER SHALL BE REQUIRED TO ACCOMMODATE ALL PIPE GREATER THAN 18 INCHES IN DIAMETER.
- E) DESIGN OF CROSS-SECTIONS. STREET DITCH CROSS-SECTIONS MAY BE "V" SHAPED OR TRAPEZOIDAL.
- F) ROCK CHANNEL LINERS. ROCK LINING SHALL MEET THE FOLLOWING REQUIREMENTS:
- I) ROCK GRADIENT SHALL BE AS FOLLOWS, AT A MINIMUM
- PASSING 8 INCH SQUARE SIEVE 100% PASSING 2 INCH SQUARE SIEVE 0-10%
- II) ROCK SHALL BE PLACED SO AS TO FORM A FIRM, DENSE PROTECTIVE MAT AND CONFORMING TO THE DESIGN SURFACE OF THE DITCH. INDIVIDUAL ROCKS SHALL NOT PROTRUDE MORE THAN THREE INCHES FROM THAT SURFACE. ACTUAL DITCH DIMENSIONS SHALL BE BASED ON THE CALCULATED STORMWATER FLOWS.

WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE

CIVIL NOTES

SHEET NO.

C3.1

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PROJECT NO.
03009
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WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
for Nicholson Development Properties

SHEET TITLE

CIVIL NOTES

SHEET NO.

C3.1

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE
5212 37th Avenue SW Seattle WA 98126
phone 206.923.0560 fax 206.923.3507 email office@terraformdesigngroup.com

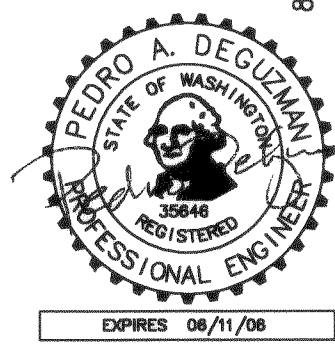
WALGREENS STORE #7782
1901 MAIN STREET, FERNDALE, WA
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SHEET TITLE

CIVIL NOTES

SHEET NO.

C3.1



8	ADD NOTES BY CITY, REVISED WATER EASEMENT	8/17/04
7	AS-BUILT	8/2/04
6	REVISED WATER SERVICES	5/5/04
5	REVISED FIRE SERVICE TO BLDG. 'D'	4/27/04
4	ENGINEERING REVISIONS	4/14/04
3	WALGREENS CORRECTIONS	2/19/04
1	REVISED PER CITY COMMENTS	12/16/03
NO	PERMIT SUBMITTAL	DATE

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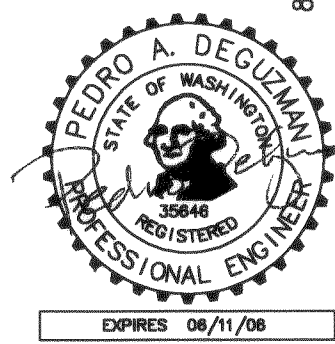
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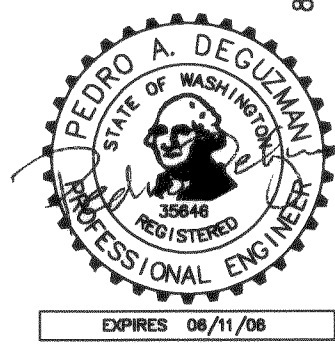
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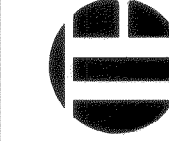
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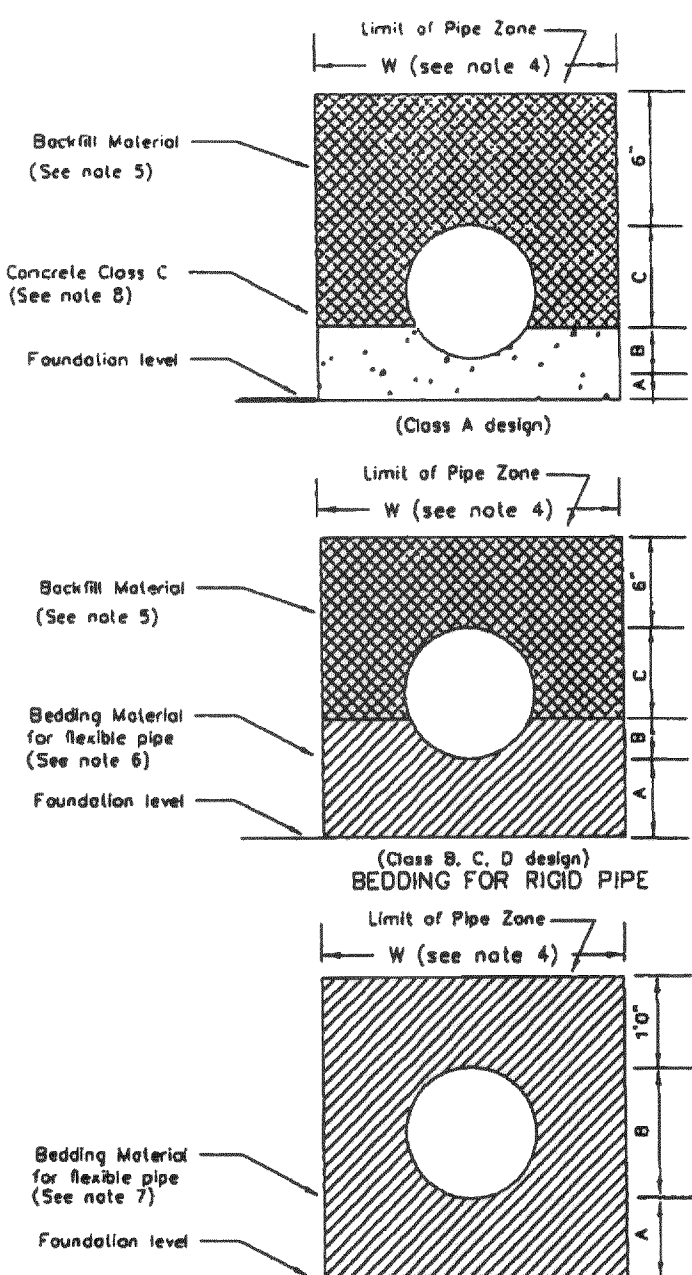


8	ADD NOTES BY CITY, REVISED WATER EASEMENT	8/17/04
7	AS-BUILT	8/2/04
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5	REVISED FIRE SERVICE TO BLDG. 'D'	4/27/04
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1	REVISED PER CITY COMMENTS	12/16/03
NO	PERMIT SUBMITTAL	DATE

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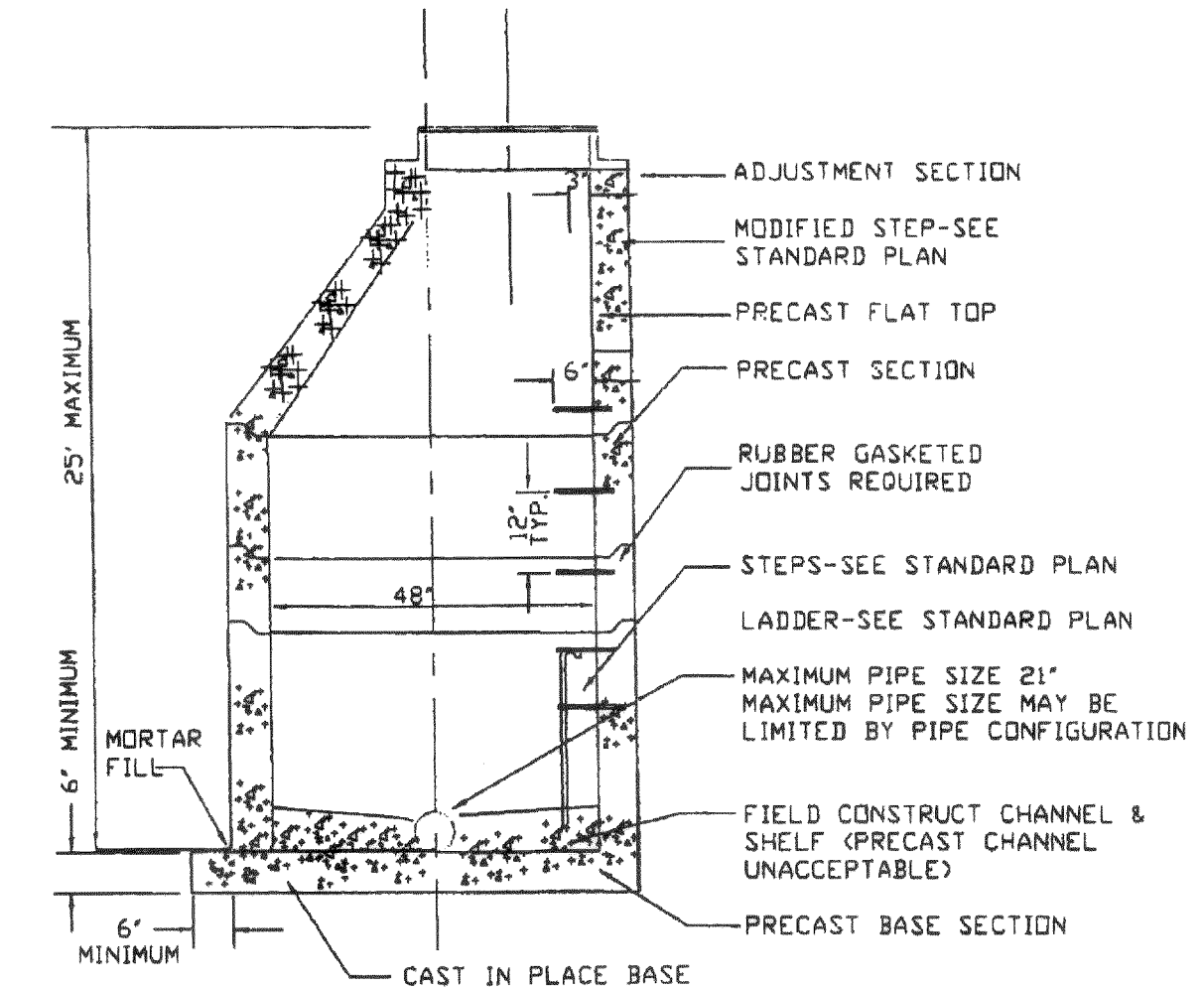
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- NOTES:
1. Provide uniform support under barrel.
 2. Hand tamp under haunches.
 3. Compact bedding material to 95% MAX density except directly over pipe; hand tamp only.
 4. See "Excavation and Preparation of Trench" in the Sanitary Sewers section of the Standard Specifications for trench width "W" and trenching options. The pipe zone will be the actual trench width, except for Class A bedding. The minimum concrete width shall be 1 1/2' ID. + 18".
 5. Trench backfill shall conform to "Backfilling Sewer Trenches" in the Sanitary Sewers section of the Standard Specifications, except that rocks or lumps larger than 1" per foot of pipe diameter shall not be used in the backfill material.
 7. See "Bedding Material for Flexible Pipe" in the Aggregates section of the Standard Specifications for the material specifications.
 8. Pipe must be anchored in such a manner as to ensure flow line is maintained.

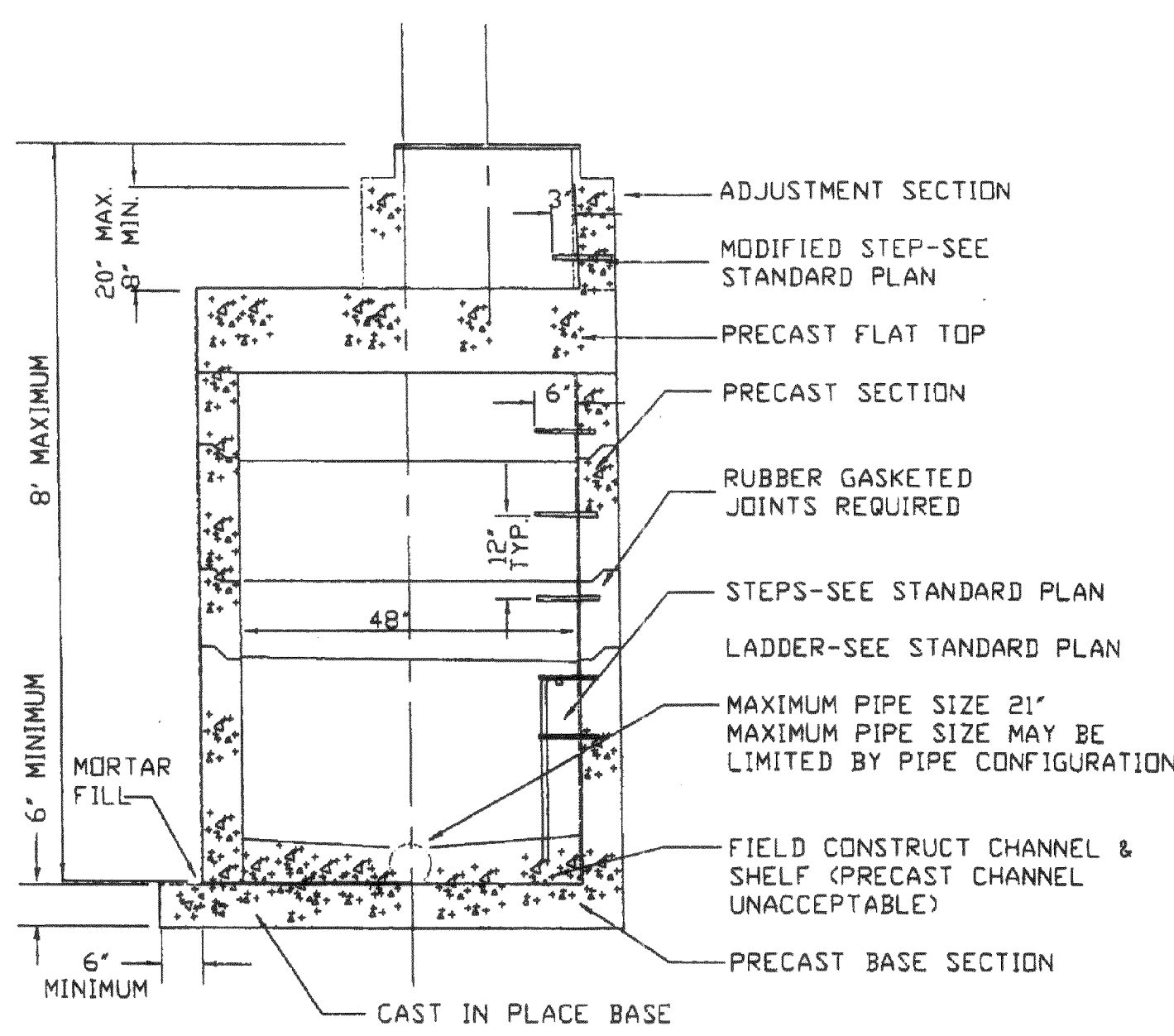
BEDDING CLASS DESIGN					
DIMENSION	CLASS A	CLASS B	CLASS C	CLASS D	CLASS F
A	1/4 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.
B	1/4 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.
C	3/4 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.	1/2 O.D.

APPROVED: [Signature] CITY OF FERNDAL PIPE BEDDING FOR SANITARY SEWERS DRAWING SS-1



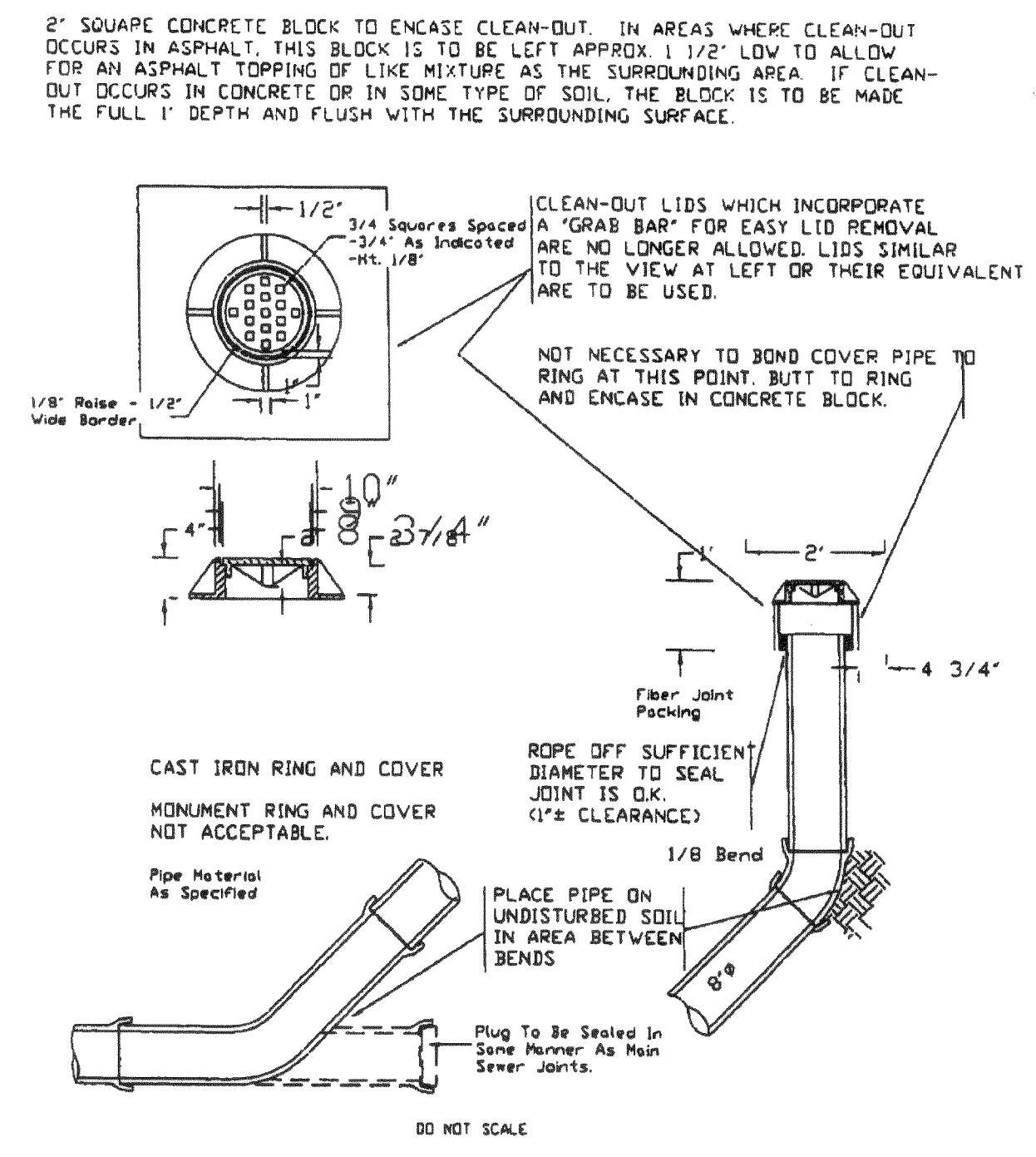
TYPE I - 48" MANHOLE

APPROVED: [Signature] CITY OF FERNDAL TYPE I 48" MANHOLE DRAWING SS-2



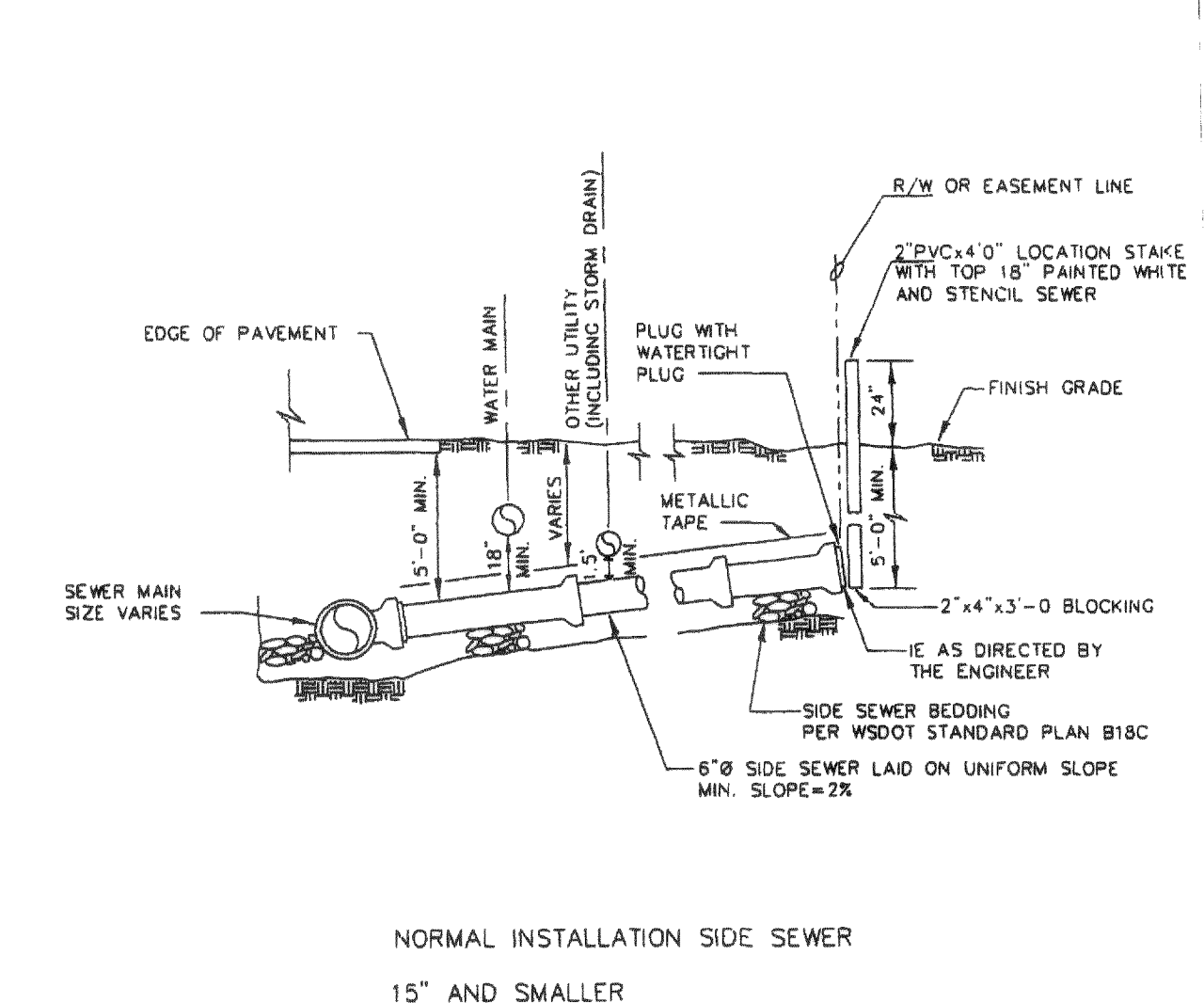
TYPE II - 48" MANHOLE

APPROVED: [Signature] CITY OF FERNDAL TYPE II 48" MANHOLE DRAWING SS-3



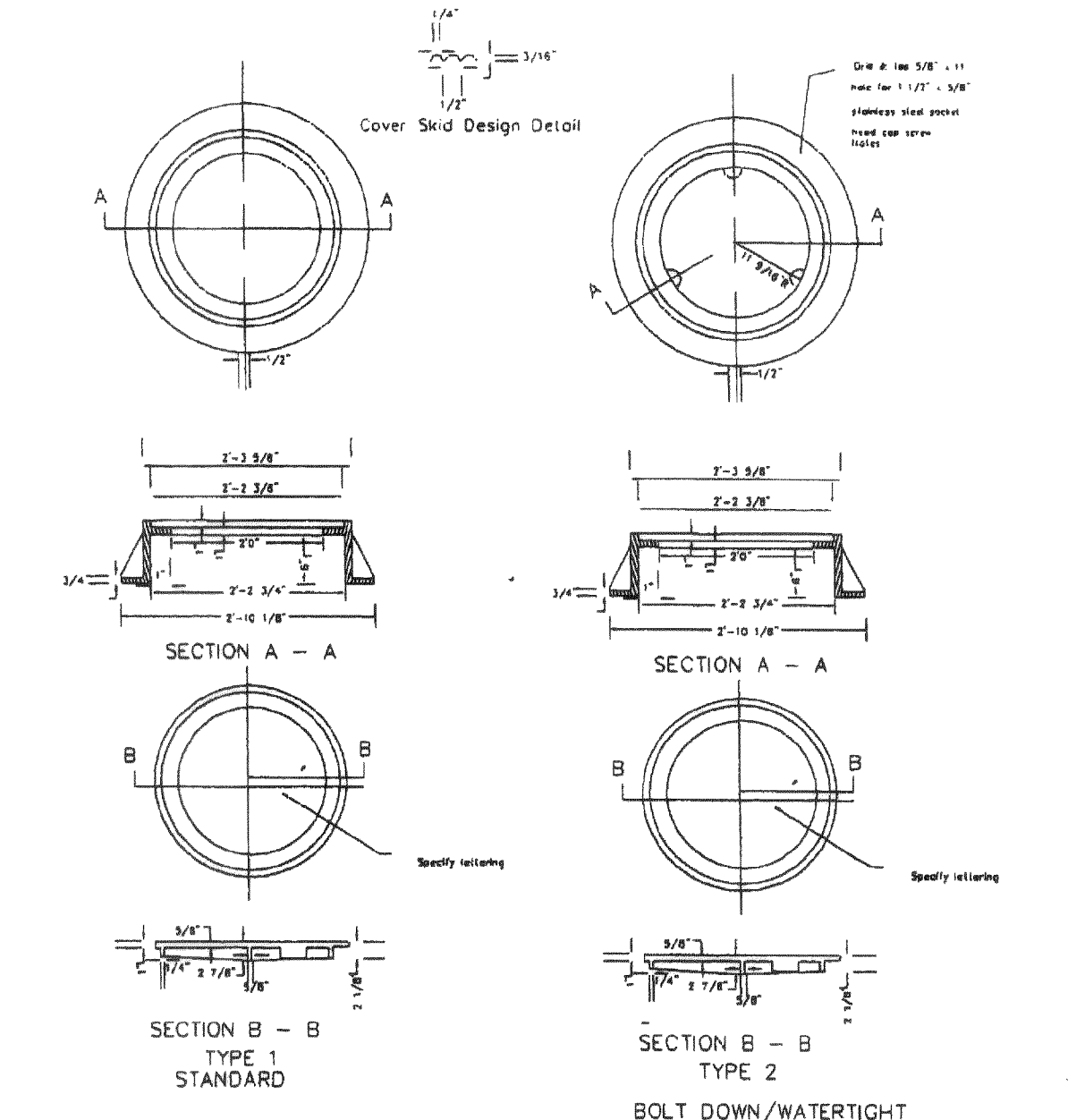
8" CLEAN OUT

APPROVED: [Signature] CITY OF FERNDAL 8" CLEAN OUT DRAWING SS-5



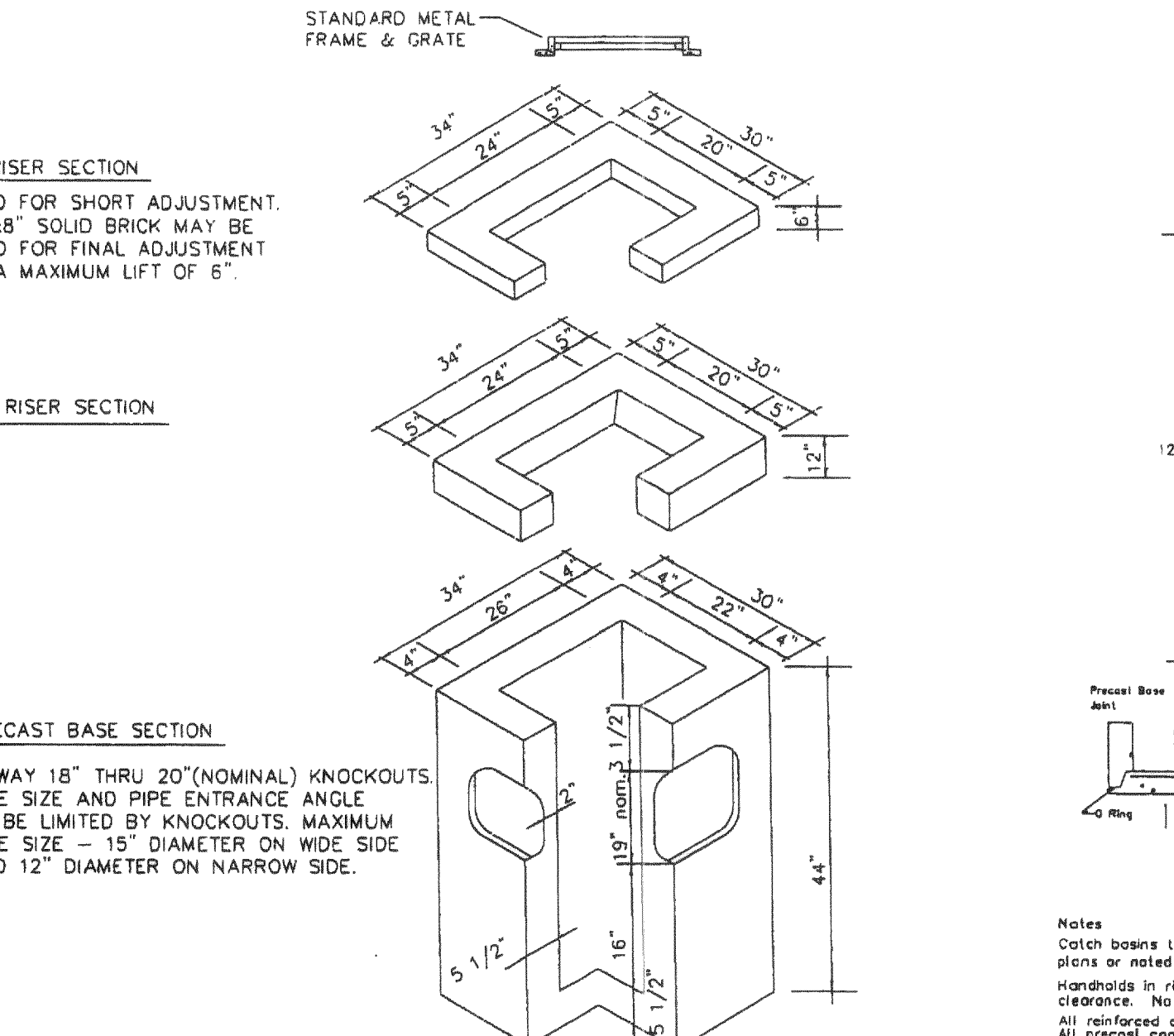
NORMAL INSTALLATION SIDE SEWER 15" AND SMALLER

APPROVED: [Signature] CITY OF FERNDAL NORMAL INSTALLATION 15" AND SMALLER SEWER MAINS DRAWING SS-6



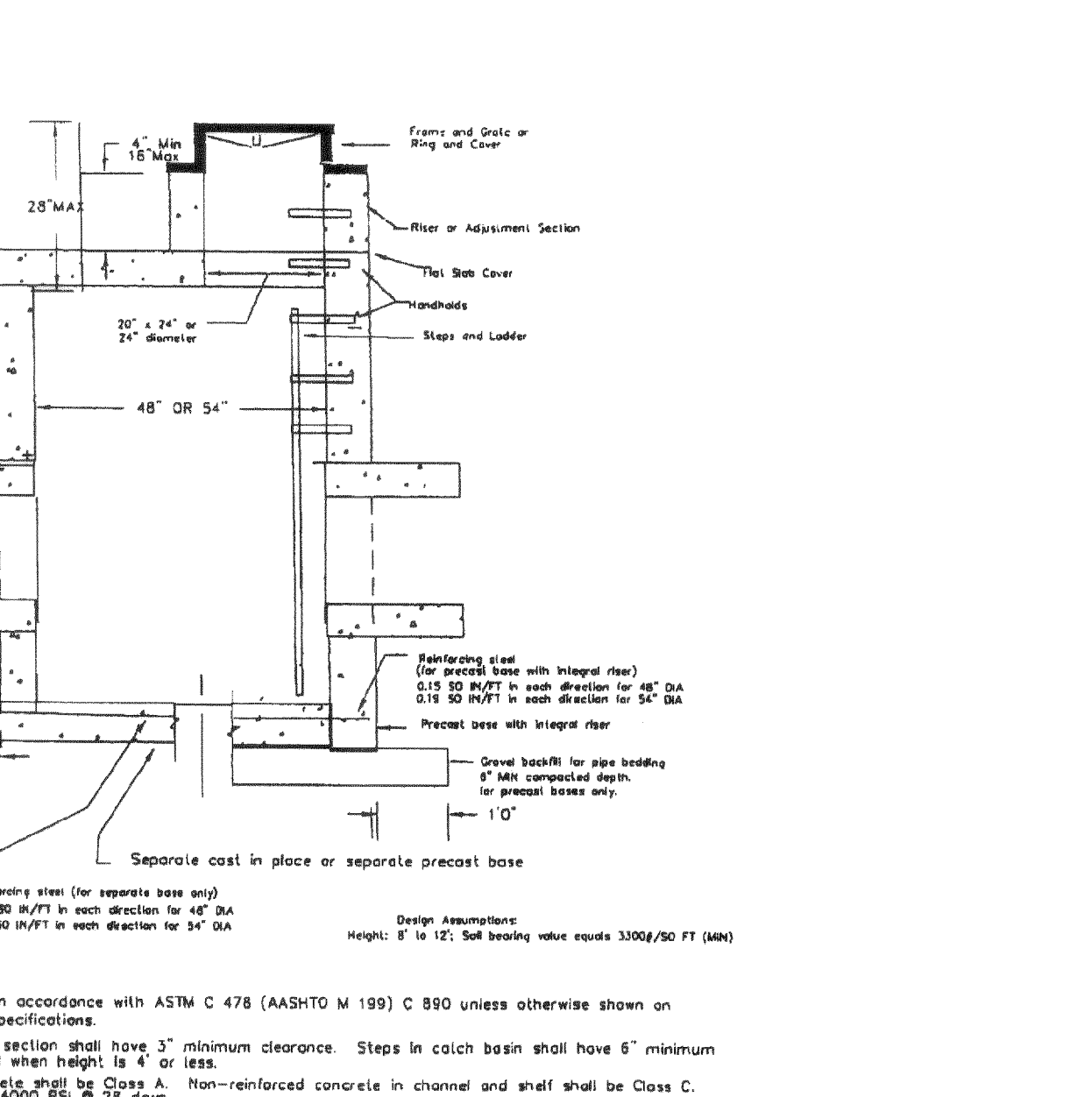
MANHOLE RING & COVER

APPROVED: [Signature] CITY OF FERNDAL MANHOLE RING & COVER DRAWING SS-9



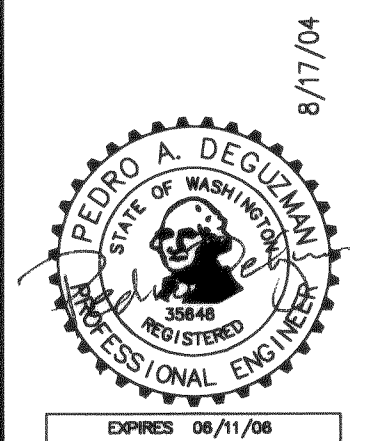
CATCH BASIN TYPE I

APPROVED: [Signature] CITY OF FERNDAL CATCH BASIN TYPE I DRAWING ST-1



CATCH BASIN TYPE II

APPROVED: [Signature] CITY OF FERNDAL CATCH BASIN TYPE II DRAWING ST-2



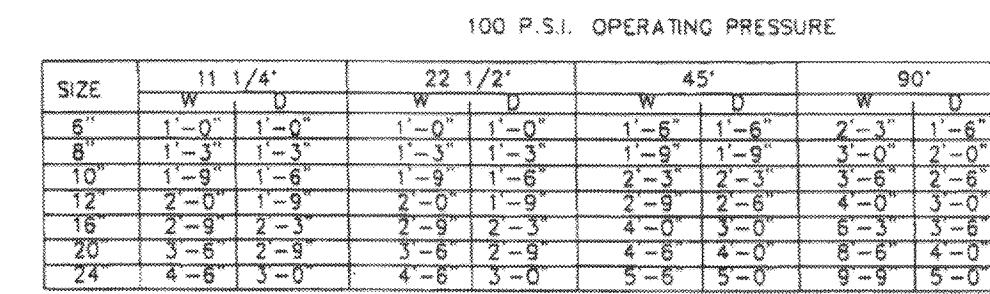
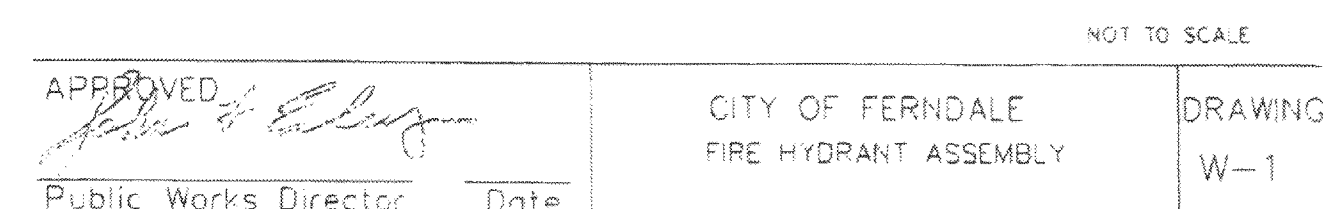
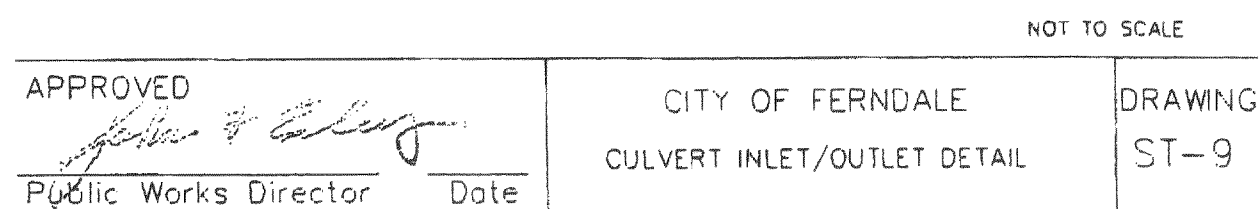
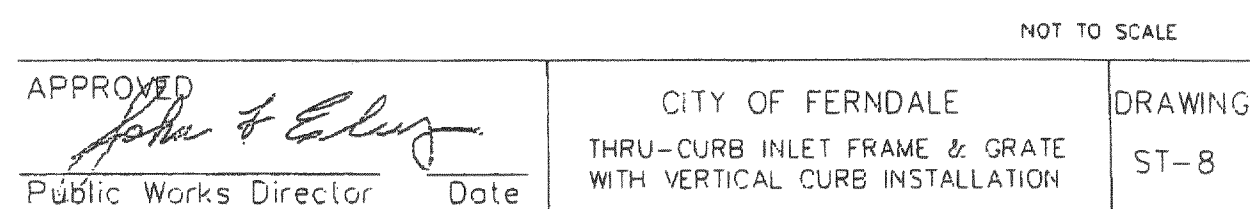
DATE	REVISION
8/17/04	1. PERMIT SUBMITTAL
12/18/03	2. REVISIONS
1/15/04	3. REVISIONS
4/14/04	4. REVISIONS
4/27/04	5. REVISIONS
5/5/04	6. REVISIONS
8/2/04	7. REVISIONS
8/17/04	8. ADD NOTES BY CITY, REVISED WATER EASEMENT

TERRAFORMA DESIGN GROUP, INC. CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE 5212 37th Avenue SW Seattle WA 98126 phone 206.923.0590 fax 206.923.0597 email office@terraformdesigngroup.com

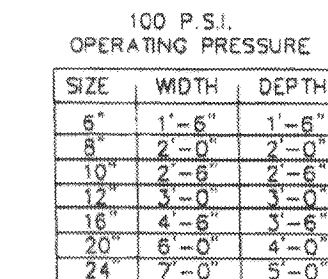
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WALGREENS STORE #7782 1901 MAIN STREET, FERNDAL, WA for Nicholson Development Properties

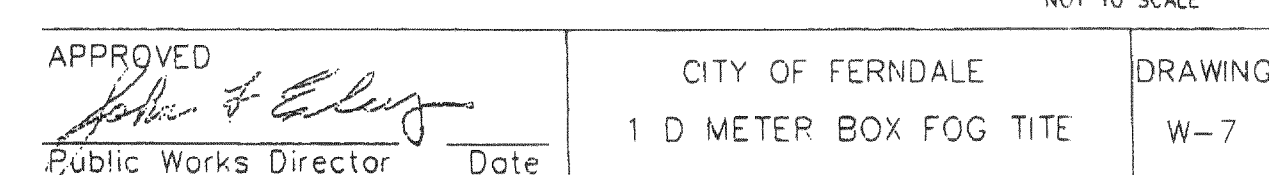
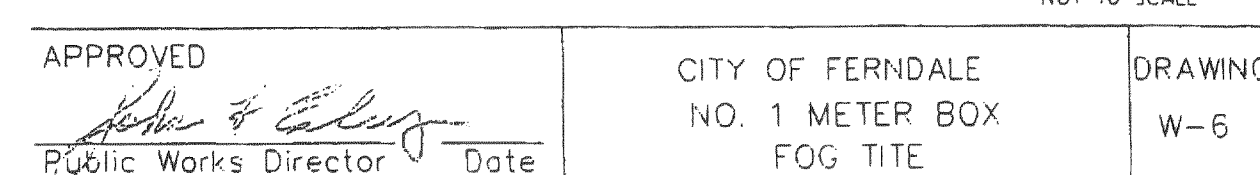
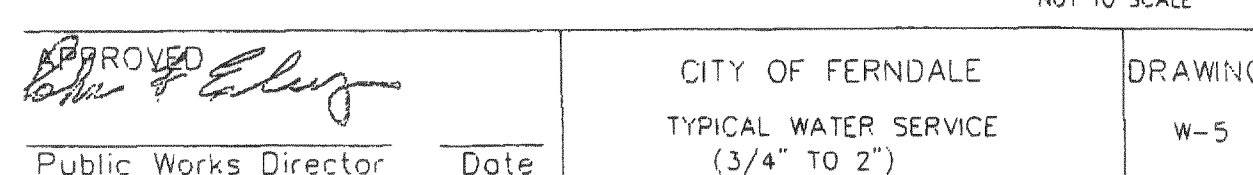
SHEET TITLE CIVIL DETAILS SHEET NO. C3.2



APPROVED <i>[Signature]</i> Public Works Director	Date	CITY OF FERNDALE THRUST BLOCKING ELBOWS	DRAWING W-2
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NOT TO SCALE	
APPROVED <i>[Signature]</i> Public Works Director	CITY OF FERDALE THRUST BLOCKING TEES
Date	DRAWING W-3



DRAWING	W-20
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